THE JOURNAL
OF THE
Kansas Medical Society

Vol. XV TOPEKA, KANSAS, AUGUST, 1915 No. 8

Published Monthly under direction of the Council. Annual Subscription. $2. Single Copy, 20c.
303-304 Commerce Building, Topeka, Kansas

Entered as second-class matter May 26, 1914, at the Postoffice at Topeks, Kansas, under the Act of March 3, 1879.

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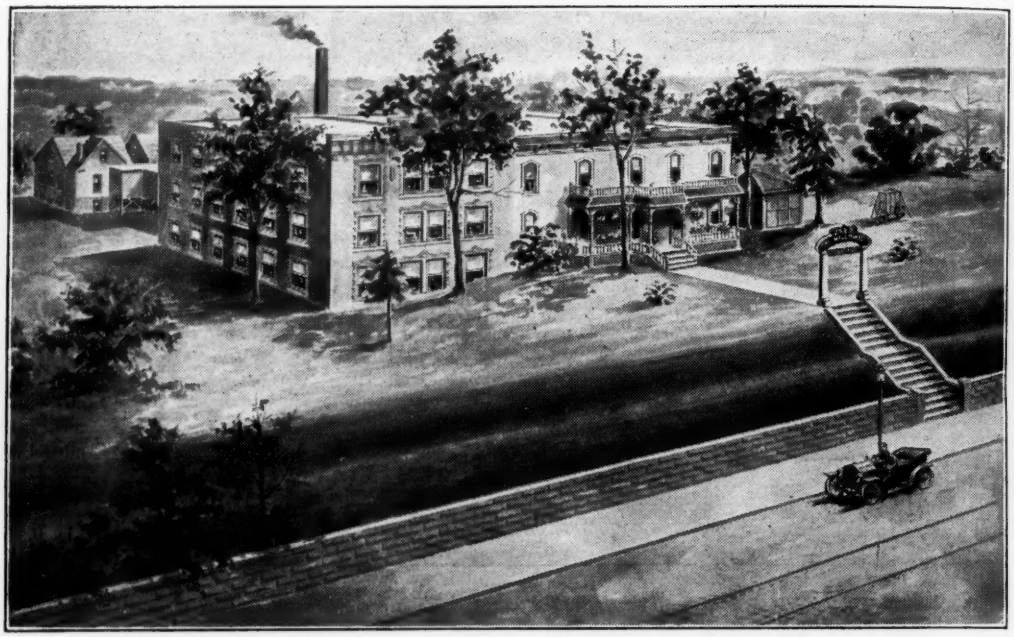

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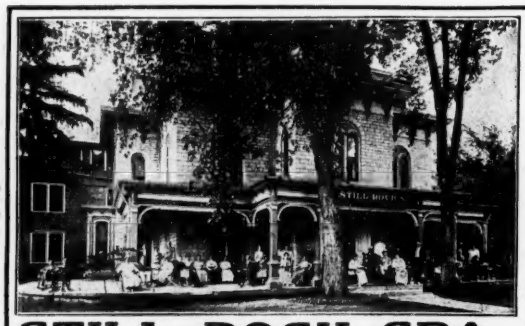

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The Medical School and the State.

JOHN SUNDWALL, PH. D., M. D.
Professor of Anatomy, University of Kansas.

Almost with one acclaim all who attended the recent dedication exercises of the Washington University Medical School remarked: "The plant is one of the most complete in existence. St. Louis gives promise of becoming one of the medical centers of the world." How does that sound to Kansans who have vied with the people of Missouri in the acquisition of all that is good?

There is in Kansas and in some other states as well, a feeling among the citizenry that the state should abandon all attempts at professional education. "The cost is too high," they say. Toward medical education especially, much contravention has been directed.

Missouri evidently stands among the states which favor medical education. Her greatest acquisition for higher education is now the completely equipped medical school of Washington University. Besides this institution, Missouri has two other medical schools of note—the medical school of her State University which conducts the laboratory sciences, and that of the University of St. Louis. Missouri is proud of these institutions. This pride could not be concealed by the best citizens in St. Louis as visitors were shown the massive, well equipped Washington University Medical School.

That in Kansas, on the other hand, there is in general a feeling against State support of medical education, is apparently the case. Only meager provision for a medical school has been made, and it now exists only as a result of the desperate efforts of a few of the citizens.

What then is responsible for this difference of opinion regarding medical education? Certainly the citizens of Kansas desire as competent practitioners as do those of Missouri. Kansas has demonstrated her deep interest in the care and treatment of her indigent unfortunate victims of disease. Her generosity is seen in the large commodious hospitals for mental disorders, a sanitarium for tuberculosis, and numerous avenues by which public hygiene is maintained. Her laws respecting public health are as progressive as those of most other states. But when it comes to a medical school which should be at the very foundation of all state measures towards the maintenance of health and the care and treatment of the victims of disease, Kansas is very indifferent. This indifference is shown not only by many in the legislative and executive branches of our state government, but by many in the medical profession, and also by many men of affairs. In fact, perhaps, the greatest opposition has been voiced by those concerned in higher education. As far as I have been able to determine such opposition is not to any degree so current in Missouri. The medical profession is assuredly proud of its new Washington University medical school. The man of affairs has demonstrated his belief in medical education. The gener-

ous philanthropy of wealthy St. Louisans is sufficient evidence of this.

True, Missouri greatly exceeds Kansas in population. In fact the former, according to the last census has about double the number of people. Missouri's wealth is undoubtedly much greater than that of Kansas. Still the latter has not made one-half the progress respecting medical education as has the former. Missouri believes in it. Numerous wealthy citizens of her state, confident that that philanthropy concerned with the preservation and prolongation of life is the greatest, have generously contributed towards this end.

True it is that some men in Kansas have formed a nucleus for a medical school and that wisely in connection with the state university. Unfortunately this has not been munificently followed up either by the state or by private philanthropy. Again let me ask what is responsible for this difference of attitude?

Dismissing as I must, partly through ignorance of conditions as they are and were here and partly through expediency, many of the factors that may be responsible for this difference of opinion regarding the value of a medical school and its support, I want to call attention to one great discovery that some of the citizens of St. Louis made—if not their discovery, at least the application of it.

Mr. R. A. Barnes, a merchant, banker and philanthropist, left his estate for the foundation of a hospital. "A hospital for sick and injured persons, without distinction of creed under the auspices of the Methodist Episcopal Church South"—such was his request. Through the prudent administration of his trustees the estate reached the sum of $2,150,000. The establishment of this hospital was the great concern of the trustees.

After much investigation through travel and advice from the world's greatest authorities on hospitals, it was unanimously decided that the most efficiently administered hospitals are those organically connected with medical schools. Such hospitals as John's Hopkins, the Massachussetts General, and the Presbyterian of New York are examples of the most efficacious, and each is closely related to a medical school. A clause in the contract between Washington University and Barnes Hospital shows at once the attitude of the Barnes Hospital Board of Trustees:

"That whereas the trustees have become satisfied, after a thorough examination conducted by them, that the efficiency of a hospital depends, in large part, upon the ability of its medical staff, and that a hospital can render better service to its patients when it has associated with it an organized medical school and scientific staff, laboratories, and dispensary."

Other hospitals had found this to be true, and the reason therefore could be summarized as follows:

(1) Medicine today is largely a laboratory science. In addition to the laboratory facilities necessary for the identification of microbes—which play such a large part in disease, other extensive and expensive equipments such as X-ray, metabolism apparatus, heart station, etc., are essential for the diagnosis and treatment of diseases in general. This indispensable laboratory can be secured only when closely coordinated with a medical school. Again, the manipulation of this complex equipment requires the services of a large and efficiently trained staff. This can be best arranged for in the highest class medical school.

(2) Medicine today has numerous specialties. Each specialty is in a stage of rapid development. In order that each specialty be properly taken care of, the full time and energies of at least one man as a director are indispensable. The director of each specialty must be a product of both extensive and intensive training. He must devote all his time to study, teaching and investigation along his particular line. Only by such qualification can real progress be made. And

only in the medical school of high rank can such men be found. Fortunate indeed is that hospital which is under the administration of such a staff.

(3) No lengthy dissertation is needed to demonstrate the fact that a teacher with all the most advanced methods of both physical and laboratory diagnoses at hand, going through the wards with a group of students following him, is far better equipped to deal with patients than otherwise.

Again a patient is fortunate indeed to have the services of an advanced student, who is eager to accurately diagnose the case. He will spare neither time nor means to arrive at his conclusions. Every available method will be used. Contrast this treatment with the rapid and superficial survey of the average busy practitioner. The patient soon realizes the great value of the student's services. Practically none object. Quoting from Brookings:

"Of thousands of patients who have passed through the Massachussetts General Hospital during the past ten years (which hospital is affiliated with the Harvard Medical School) we have a statement from them in writing to the effect that only one or two patients have ever objected to being used for purposes of instruction. The patients soon realize that a small group of four or five students gathered around the bed insures to them a thoroughness of diagnosis and treatment from the physician in charge which could be hardly expected under any other conditions."

Students in the senior year, then would serve as junior internes. Practically one year, which is now wasted, due to loose combination of school and hospital, would be saved.

It is a strange fact that hospitals learned early that associated training schools for nurses were indespensable, but have only recently learned—that is, practically and on a broad scale—that training schools for physicians are even more essential.

To sum up then—St. Louis learned through the efficient trustees of the Barnes Hospital *that an efficient hospital conducted on the highest plane must be closely connected with an equally efficient medical school.*

Through the untiring efforts of that worthy citizen of St. Louis, Mr. Robert S. Brookings, and others, plans were laid for the establishment of a medical school that would meet the demands of the hospital. Washington University Medical School was chosen, but it was then in a class with the typical inefficient American medical college—more or less proprietary in nature. Realizing that in order to attain the ideal in medical education, and that no material progress toward that ideal could be made so long as an untrained faculty composed for the most part of busy practitioners and an almost negligible equipment were maintained, the former magnanimously resigned.

The resignation of the teaching staff was the beginning of the new St. Louis, as far as the medical education is concerned. The advice of the leading medical scientists of this country was then sought, advice regarding men, means, methods, equipment—all that concerns the establishment of a medical school of the first order. To quote from the report of the General Educational Board:

" 'Within the last three years,' in the words of the application addressed to the General Education Board, 'the Medical Department of Washington University has been completely reorganized as follows: The entire faculty resigned and successors, chosen on the advice of the leading medical scientists, were called from different institutions—the pathologist from the Rockefeller Institute, the physiologist from the University of Wisconsin, the biological chemist from Cornell University, the chief physician from Tulane University, the chief surgeon from the Massachusetts General Hospital.' "

Next in importance to this organic relation between the medical school and hospital, is that of co-operation. St. Louis wanted a childrens hospital. So it was wisely decided that the three institutions

—Washington University Medical School, Barnes Hospital, and the St. Louis Children's Hospital—unite. The three interested parties decided to build a single plant. The money was raised, and the buildings and equipment are now complete. The plant, so far, has cost something more than $2,500,000. Barnes Hospital has about $1,000,000 endowment, and St. Louis Children's Hospital—the pediatric department of the medical school—has a fixed annual subscription of $40,000. Contracts were drawn up between the three institutions that make them perpetually as one. The medical school then petitioned the General Educational Board of New York for aid and it generously responded with an appropriation of $750,000 toward $1,500,000 for the endowment of university departments in Medicine, Surgery and Obstetrics.

I. OBJECT LESSON.

From the experiences of St. Louis in the establishment of a great medical school and hospital the following are clearly significant and demand our most earnest consideration:

(1) In order to maintain a modern efficient hospital—one in which diseases may be diagnosed and treated in the light of modern scientific achievement—it must be organically connected with and administered by a well equipped medical school. The converse is also true. An ideal medical school must have associated with it an ideal hospital.

(2) Co-operation.—Owing to the expense now attached to the initiation and maintenance of an efficient hospital-medical school, it is almost prohibitive for one particular organization, unless unlimited in resources, to establish it. Several hospitals each with its own special endowment could build with one medical school a plant that would meet modern scientific demands. Private philanthropy a municipality, and the state could combine in such a movement.

(3) Only upon the establishment of such a plant will any material aid be obtained from private philanthropy. A medical school and hospital whose staff is devoting all its time to teaching and research—advancing the science of medicine—in the long run will attract that philanthropy which is really worth while. Men of means are generally primarily interested in that philanthropy which has for its object the alleviation of the sufferings of mankind and they are not slow to recognize the character of the institution upon which such munificence should be conferred. As an example of this we need only to recall the quick response of the General Educational Board to the petition of the Washington University Medical School.

II. KANSAS AND A MEDICAL SCHOOL.

That Kansas should support a medical school, not necessarily primarily for the education of physicians but that *her own citizens may have the most competent medical attention obtainable is indispensable.* No citizen in Kansas would begrudge a tax in order to achieve this end. One of the greatest functions of the state is to guarantee its citizens, both rich and poor, the most competent care and treatment in case of illness. This can be accomplished only in the establishment of an efficient state general hospital. The highest efficiency can only be obtained when such a hospital is organically connected with a medical school. The two are inseparable.

Most unfortunate indeed has been the policy of Kansas—a common mistake among her sister states—of distributing her charitable institutions in various and remote localities instead of concentrating them in one place. Higher educational institutions likewise have suffered from such distribution. Politics, sectional favors, and what not have been responsible for this pork barrel manipulation. Not with an idea of censure do I call attention to this unsound and lamentable procedure. It is the common mistake of democracy. An example of reckless distribution is seen in the Topeka State Hospital, Osawatomie State Hospital, State Hospital for Epileptics at Parsons, State Home for Feebleminded at Winfield, Larned State Hospital,

all of which are concerned in the care of mental disorders; State Tuberculosis Sanitarium at Norton, and numerous contributions to private hospitals for the care of patients suffering with diseases in general. According to the Fifth Biennial Report of the Board of Control of the State Charitable Institutions of Kansas—"The total expenditures of five institutions (this includes the first four named institutions and the Orphans Home which is now under another board the last reported annual expenses of which amounts to $43,748.08) for the fiscal year ending June 30, 1914, from state funds and from the Bell estate fund amounts to $815,325.89." The current running expenses were $697,918.39. The difference between the two sums was used for repairs, improvements and new buildings. This however is more or less a constant expense. Add to the amount the current expenses of the Tuberculosis Sanitarium $31,974.72; the new Larned Hospital, $80,281.13—much of this was used in buildings; and the various amounts donated annually to numerous private institutions—$100 to $500 each and we gain some notion of the large contributions that through tax the citizens of Kansas are making for the care and treatment of these unfortunates.

Suppose now that all these institutions were in one locality together with a large general hospital for general diseases. The state then could well afford all the modern expensive equipment so essential to the diagnoses and treatment of diseases. For this special apparatus could cover the needs of all. A medical school of the highest plane could well and of necessity be maintained in connection with these hospitals. Men of special training devoting all their time to teaching, investigation and care of patients would conduct the various departments. At the head of that department concerned with mental disorders, a most competent psychiatrist would stand. Competency in this line as well as in others requires the most rigid extensive training, and then only by the most diligent study can the psychiatrist keep abreast of the advancement in this specialty. But the state could well afford to pay almost any sum for the services of such a man. This man as professor of mental diseases would train other men along his line. These in turn could aid him in this great service. Infinitely more efficient would be the treatment of the insane. The cramped souls of these unfortunate victims silently cry for such services. A hospital for insane must not be a prison.

The state has also provided for the care and treatment of tuberculosis. This disease likewise demands the services of specialists of the first order. The earliest recognition of tuberculosis is in general equivalent to a cure. It is with this phase that we are economically interested. Now to diagnose tuberculosis in its early stages requires much special training. The most efficient diagnostician is he who can recognize it in its earliest phases. Would not one who has been thoroughly trained for this work and who is devoting all his time to advancing our knowledge respecting this disease both by teaching and investigation be of inestimable value to the state?

Advanced students keenly interested in the diseases of their patients and nurses in training would walk the wards instead of disinterested often ignorant attendants who must be well paid by the state for their services.

What could be saved then by virtue of this concentration of all the various hospitals in one locality, would be sufficient to establish and maintain the hospitals and a school of the very highest type. Kansas could then boast of one of the most efficient plants in existence. She could rest assured that her unfortunate wards were receiving the most skilled treatment and at the same time she could be sending yearly among her citizens highly trained physicians to care for the sick and provide for health measures.

All this could be accomplished with no additional expense to the state. Sufficient funds, I am firmly convinced, to meet this expense would be saved in numerous ways —the chief of which are salaries and

wages. In referring to the report again I note the following at one of the state hospitals: the total expended during the past fiscal year for salaries and wages was $76,990.42. While the amount expended for commissaries was $90,026.55. At another institution the first item is $66,-950.75, the second, $81,947.55. These items were taken from two institutions selected at random. Doubtless the proportion of salaries and wages to commissaries are similar in the other institutions.

One may readily see the relation of salaries and wages to the cost of feeding these institutions. The total of the salaries and wages alone for the hospital at Topeka, Osawatomie, Parsons and Winfield during the past fiscal year was $206,067.33 If these alone were combined would not the savings in this item be sufficient to pay for the services of a most competent teaching and hospital staff devoting all its time to the care and treatment of diseases and the advancement of medicine? This would be surely true with the free and efficient services of the students and nurses in training substituted for much of the often unsatisfactory hired attendants.

III. WHAT MIGHT BE DONE.

In calling attention to the conditions that are and contrasting them with the ideal conditions that might have been, I am entirely void of any personal criticism. No one is to be censured. It is an expression of American political ideals and is not by any means confined to the state of Kansas. To even anticipate that these institutions will ever be congregated is the height of phantasy. Let us however take conditions as they are and see if we can in any way aspire toward that ideal condition.

In the first place the maintenance of an efficient general hospital is indispensable to the best welfare of the state. Already munificent provisions have been made for the care and treatment of mental disorders, and tuberculosis. No difficulty is experienced in obtaining the necessary funds for the maintenance of these hospitals. These diseases however constitute only a small fraction of the human ills. Is it not as much the function of the state to provide facilities for the care of all her indigent sufferers as it is to care for only certain portions of them? In other words we show class distinction so far as disease is concerned. Even of greater economic value is the care and treatment of general disorders for in most instances the sufferers are returned to society and again resume their economic burdens.

True the state does provide in a large measure for the sufferers of general diseases. At least 37 private general and 6 private hospitals for nervous diseases are to some degree the beneficiaries of the state.

A nucleus for a State General Hospital has been laid at Rosedale. Through a private bequest it was initiated. Its support, however, by the state has been meager indeed. In accordance with the trend of efficiency in hospital administration a medical school has been established in connection with it. To the state in general however the medical school alone exists. And when appropriations are asked for the support of this combined institution, invariably the amount requested is divided by the number of students graduating and then the familiar comment: "It costs too much to produce a doctor, let him go elsewhere for his training." It would be as consistent to discontinue the appropriations to all state hospitals on the ground that the salaries and wages are too high. After all the Rosedale Hospital is penalized for endeavoring to be efficient.

Now that a general hospital has been established, it should be unreservedly supported. The state should concentrate all its appropriations for the care of diseases in general upon this hospital instead of distributing them broadcast as it does now. Concentration makes for efficiency. That general disorders requiring state aid are far more prevalent than certain special disorders for which the state magnanimously provides, is unquestionably true. If the proper sense of proportion in appro-

priations had been carried out, the Rosedale Hospital would have flourished. Instead of one or two buildings meagerly equipped and always overcrowded—providing funds are available—numerous buildings would now be seen—buildings well equipped, in which the care and treatment of disease would be conducted upon the most advanced scientific lines, by a complete staff of experts devoting all their time to the treatment of disease, teaching, and advancing our knowledge of medicine.

No—it is not primarily a medical school that seeks state aid. The medical school in connection with the state hospital guarantees efficiency of the highest order. The state demands this efficiency. Notwithstanding the brief existence of the Rosedale Hospital, the work it has so far accomplished in the care and treatment of worthy citizens of Kansas is beyond estimation. Numerous indigent citizens—broken down in health and spirit have received the treatment they needed. If one but views the incoming crippled children, perhaps a club foot, a crooked spine, a hair lip or some unsightly deformity, and then sees the results after treatment one feels that the state has been fully recompensed for all its expense in the correction of even one of these unfortunates. Truly Kansas demands such an institution.

Not only should the indigent poor be provided for but sufficient facilities should be maintained for the accommodation of all who desire treatment. Of course it is the custom for all to pay for treatment when they can afford to—hence the gradation from free wards to more or less expensive private accommodations.

In my consideration of the conditions as they are I have refrained from a discussion of the relative merits of the locations of the various state hospitals. All are not agreed by any means that Rosedale is the ideal location for a state general hospital and its associated medical school. Many claim that with the advent of the new union depot the population of Rosedale and vicinity will rapidly increase and that after all it will prove to be the ideal place. Others prefer Lawrence, Topeka, or Kansas City. The fact, however, is that it has been established at Rosedale. Another political axiom is—that once a state institution is established, it remains permanently fixed. After all, in this day and age of rapid and convenient transportation, location is not of such importance as formerly. Our greatest regret should be that all state hospitals are not congregated in one locality.

IV. MEDICAL SCHOOL AND STATE HOSPITALS.

I believe that all will agree that a medical school on the highest plane, both in equipment and faculty—thelatter specially trained and devoting all its time to its respective sciences—will assure the most efficient hospital, and, further, that the school must be organically connected with at least one of our hospitals since in view of their scattered condition it cannot be connected with more than one. Of necessity this one should be the general hospital because of its varied cases.

Now what relation can the school bear to the other hospitals distinctly located so that all are mutually benefitted. In my opinion a very close relationship could and should exist with excellent results.

The psychiatrists at the various state mental hospitals should be on the staff of the medical school in connection with mental diseases. Perhaps, better still, one psychiatrist with a competent staff could well manage all such state institutions. The various hospitals should be teaching hospitals for have we not learned that a teaching hospital guarantees the highest efficiency? Each hospital should provide for internes and nurses in training. This is an age of specialization and every specialty in medicine requires its well trained physicians and nurses. Assuredly the services of advanced students, internes, and nurses would be far more desirable than disinterested paid attendants. Opportunities should be offered at these hospitals for specialization. The country is in sore need of well trained psychiatrists. We not begin this great work with one state

mental hospital and then later extend it to include all?

Likewise the state tuberculosis sanatorium—erroneously termed "tubercular," this term having reference to anything possessing small nodules, eminences or warts, hence a warty sanatorium—should be closely related to the medical school in the manner just outlined. Let all state hospitals and the medical school have this relationship.

V. CO-OPERATION.

Let us not forget the value of co-operation such as St. Louis holds up as an example. Would it not be the most consistent plan to eradicate all sectionalism in the future establishment of state hospitals and congregate them around the general hospital? Would this not stand for the greatest efficiency?

Again the municipal hospital should seek a very close inter-relationship with the school. Fortunate indeed is that city which possesses the state general hospital and medical school, for then its own hospital can be made more efficient. This is one point that should greatly concern Kansas City, Kansas. Even the establishment of an ideal municipal hospital is of sufficient importance to warrant the complete amalgamation of Kansas City and Rosedale. In the light of modern medicine no hospital should be established in a locality where a medical school of high type exists without an intimate affiliation between the two.

Not only a state hospital and a municipal hospital can effectively co-operate, but private hospitals conveniently located may join in this co-operation with the medical school. In the vicinity of Rosedale-Kansas City are great industrial establishments such as the packing firms, employing an army of men. Do not these firms desire for their employees adequate medical aid? Is it not consistent to presume that they desire to co-operate in this matter? Then there are numerous individuals undoubtedly who would establish and maintain certain wards in the hospital. We must not lose sight of the fact that definite specialization is now taking place in the function of hospitals. Why not one philanthropy establish maternity wards; why not another, a heart station; and another, a building for infectious diseases; and so on? Eventually one of the greatest teaching hospitals in existence would be established. Each agency concerned in the establishment of its particular section of the hospital would maintain its organization so far as building, equipment and funds are concerned but would depend upon the efficient medical school for the staff.

To repeat, the most desirable philanthropy moves toward that institution most efficiently and scientifically governed. Even philanthropy from the outside may be approached and munificient returns may be expected. Note this item from the General Educational Board, when the three institutions at St. Louis sought financial aid:

"In compliance with the foregoing request, the Board appropriated $750,000 towards $1,500,000 for the endowment of university departments in Medicine, Surgery and Pediatrics."

Truly Kansas has a magnificent opportunity to establish one of the most efficient hospitals and medical schools in existence.

Let us not lose sight of this golden opportunity.

VI. THE UNIVERSITY AND THE MEDICAL SCHOOL.

That the medical school should be a part of a university, is now a generally accepted fact. Of course, in Kansas as well as in most other states of the middle west it is the state university that rightfully assumes the function of medical education. It is not my purpose here to discuss at length the necessity of university control. The great renaissance in medical education during the past ten years has been due to the reassumption of medical teaching by the university. With the perfection of the microscope, the discovery of microbes and the subsequent establishment of the sciences thereof—bacteriology, protozoology, etc., came other new sciences funda-

mental to medicine, such as embryology, histology, neurology, each depending upon the microscope. Physiology, pharmacology, physiological chemistry, materia medica—all were placed upon a scientific basis consequent upon new ideas and the perfection of new apparatus. These are known as the fundamental medical laboratory sciences and with anatomy occupy the first two years of the medical curriculum. The realization that these subjects are true sciences in themselves as well as related sciences, and that they should be considered as any other science, is chiefly responsible for university control. Highly trained specialists and expensive apparatus and equipment are indispensable to the teaching of the medical laboratory sciences. And in no instance should these sciences be divorced from the university. All are so intimately related to biology, chemistry and physics, that to remove them from the atmosphere of these would be fatal. It is now imperative that the fundamental medical laboratory sciences be located in the direct atmosphere of the University.

Right here, I want to make this challenge, *Every earnest student who has completed these sciences under the conditions just outlined, and none but the most stupid will contend that a thorough knowledge of each is not indispensable to the study of medicine, will practice medicine in one way—and one way only.* In other words medicine today is a science, or a related group of sciences—a science which recognizes no allopathy, homeopathy, osteopathy and various other creeds. To maintain then that "I am 'path or a 'practor" of some kind is equivalent to saying that "I am not familiar with the science of medicine."

The clinical sciences, which are in many instances applied to laboratory sciences should, of course, be carried on in connection with the hospital—in the case of Kansas, at Rosedale. It is unfortunate again that all sciences constituting medicine are not located at one place. The staff teaching the clinical sciences should be highly trained men devoting all their time to their respective sciences. It is this staff that will administer to the wants of the hospital.

So far in this discussion the function of the medical school has been considered only in its relation to curative medicine. And from this standpoint, I feel that if it succeeds in performing this function already outlined, the state will feel fully repaid for its support of the medical school. However, this is the least of its function. Another greater one is preventive medicine. Good health is the fundamental asset of all people. All else will follow. The medical school should be at the head of the state health. In its relation to the people and its physicians this can be accomplished.

VII. THE MEDICAL SCHOOL AND STATE HEALTH.

Of primary importance is preventive medicine. "An ounce of prevention is worth a pound of cure" is a familiar apothegm. The health of the people should be the state's paramount concern. That nations have perished through ignorance of hygiene is no longer questioned by the erudite historian. That the infected mosquito was directly responsible for the decline of Greece and Rome is extremely probable.

Every citizen in Kansas should be familiar with the sources of infection and disease. Every mother should know the measures required in the care and rearing of infants. For it is from the ranks of infants that Death claims its victims in appalling numbers. Children by hordes are robbed of that greatest heritage—health, manhood, womanhood—because of the inexcusable ignorance of parents. Succeed as many do in escaping the perils of infancy, then come the diseases of childhood, youth, and old age. In fact life is one long battle between self and persistent microbes. He who is familiar with their modes of attack is most likely to survive.

How can the University Medical School

disseminate such knowledge? How can it function as the head of health of the state?

This phase of the Medical School should be known as the Public Health Department. It should be in close affiliation with the State Board of Health. In fact there is no reason whatsoever but that the two should be one and the same. Public Health is a specialty and requires the services of well trained men. The Professor of Hygiene should perform all the functions now exacted of the Secretary of the State Board of Health. It would be but prolix to present argumeuts favoring such a plan. That a corps of specialists at the State University thoroughly familiar with every advancement in the sciences respecting preventive medicine, completely excised from politics, devoting all their time to problems of health, would serve the state far more effectively than the average board of health, is axiomatic.

With an ideal law specifying that the department of hygiene at the University shall perform the functions now generally ascribed to the state board of health, further organization would be as follows:

(1) Educational. This should include lectures and extension work of various kinds. Interesting and entertaining, illustrated lectures should be given in every hamlet of the state, demonstrating bacteria, manners of dissemination, modes of infection, methods of combatting, etc. Lectures of this sort can be made intensely interesting and effective. The other phases of extension work should be accomplished through publications, etc. Each district in the state should be organized into a Health League, the work of which could be made interesting as well as profitable. Not only through these leagues can the desired information be disseminated but through the school, the church—in fact through any organization. Besides knowledge relative to hygiene, information respecting patent medicine, fake institutes of treating, etc., should be widely disseminated. Courses of study should be arranged. The local health officer could represent the University in this respect.

(2) Laboratory. A well equipped hygienic laboratory at the state university is imperative—a place to which any citizen of the state may send pathological and bacteriological specimens for analysis and diagnoses. Rabies, its diagnoses and treatment, preventive innoculation for typhoid fever, the diagnoses of all infections, these would come under the function of the laboratory. In connection with the engineering school it should make analyses and surveys of all waters used for internal use. Likewise with the department of chemistry and school of pharmacy all questionable drugs and foods may be examined and their fitness or unfitness for consumption determined. Is it not a valuable asset to any state to possess such a laboratory in which these various problems may be solved?

Again numerous problems of research will present themselves. Each state must in a large measure solve its own health problems. Not only need investigation be confined solely to man, but to animals as well. Not that we advocate that such a laboratory should primarily interest itself in the general diseases of the latter, however, at times certain epidemics do break out among the animals that require the services of the best equipped laboratories.

At stated intervals, all local health officers should be called together for a short course of instruction at the University. A week or two week's instruction yearly to health officers and others interested in these measures will suffice and at the same time prove to be of far reaching significance.

With such relations then of the University Medical School to the public health of the state, could any broad minded patriotic citizen contravene the support of a medical school? The amount spent yearly on the average state board of health can be made several times more effective as a department of the University. At the same time young men can be continually and thoroughly trained for future health

work. What greater asset could the state possess?

Kansas has done much towards this affiliation between the University and Public Health. Through the commendable efforts of the present Secretary of the State Board of Health great steps have been taken towards this ideal condition.

VIII. UNIVERSITY MEDICAL SCHOOL AND THE PHYSICIAN.

Next in importance to the general diffusion among the people of the state of knowledge relative to hygiene is the efficiency of the medical profession. Despite all preventive measures, people will become ill. The services, then, of thoroughly trained physicians are indispensable. Various disorders must be scientifically diagnosed and treated. In case of grave illness who would not give all he possesses for the services of a competent clinician? The state should be able to guarantee the efficiency of it's medical licentiates.

This has been undertaken in some measure by certain laws prescribing the qualifications essential to procure a license. Statutes prescribing the minimum training of men for such important functions are far from saisfactory. Even if these laws should succeed in prohibiting insufficiently trained men from practicing medicine what provisions are made to encourage efficiency after the licenses are granted? What premium is placed on maximum training? How many physicians there are who make no further attempts to progress once this coveted paper is received from the examining board! Probably many desire to keep abreast of the various rapidly progressing sciences of medicine, but, owing to the heavy demands made upon their time and energy, find it possible to keep up with only a small portion of the progress. Some sacrifice much in order to go away from time to time for short courses and thus in a way keep up in their ever developing line of work. Now in what ways can the medical school of the state university be of service to this large body of men whose service to society is so important? Surely service to the physicians of the state would be service to the people of the state.

Among the numerous avenues open for service of this sort are:

(1) Extension work: Through the state medical journal, each department of the medical school should contribute from time to time a digest of the progress made in its particular line. True, numerous medical journals attempt such a procedure, but the articles are so scattered through the various journals that a reference librarian would be needed to summarize them. Again so much is published that is of so little moment. Now should, let us say, the professor of medicine sift out from all this chaff the real kernels of progress and contribute them from time to time to the medical profession through the journal, what far reaching value it would have.

(2) Clinics and lectures at the medical school: At frequent intervals, the school should arrange for a series of short courses for physicians. These should be in the form of well arranged lectures and clinics. Schedules of the same should be sent out in due time.

(3) Library, laboratory, and hospital facilities: Almost prohibitive is the cost of books treating on medical subjects. Even one who has a lucrative practice can afford to purchase but few of the yearly productions of valuable treatises. Visit the libraries of country practitioners and for the most part antiquated books fill the shelves. Not only are medical books expensive but they are almost ephemeral so far as value is concerned—the average length of usefulness being about five years. so rapid is the progress of medicine. Like the numerous contributions appearing in journals, multitudinous books appear—owing to the rivalry of publishers—books of the most extravagant duplication.

The library of the state medical school possessing as it does the numerous volumes appearing from time to time, should be able on application to lend the books desired. It should furnish the physicians a catalogue of its contents and apprise

them from time to time of the appearance of new books, furnishing reviews of the same by competent reviewers if desired. Likewise, the journals—no physician can afford either money to take or the time to read even a portion of the current medical literature. The library on the other hand being a recipient of all journals can refer physicians to the desired information.

The laboratories should be closely affiliated with the medical profession. Every physician in the state should feel that the laboratory is his first and last resort in matters pertaining to laboratory diagnosis. Again numerous physicians from time to time, wish to pursue certain lines of investigation. Such work should be encouraged and every opportunity and facility offered for it. Some of the world's greatest contributions have resulted from such arrangements.

The hospitals likewise should serve the profession. The hospital should be the first and last resort for the diagnosis and treatment of extraordinary cases. The heads of the various clinical departments should have the utmost confidence of the physicians of the state. Both by training and devotion to their respective sciences the professors of medicine, surgery, gynecology, etc., should be the beacon lights. Of course this is to be expected of men who have had the necessary training and who are devoting all their time to study, teaching and research in the various clinical sciences. And only men who answer these qualifications can occupy these important positions. Thoroughly trained men devoted to their respective sciences as manifested by study, teaching, and research and giving all their time to these activities, are the only hope of the clinical medical departments. Unless this is done no medical school can hope to perform the important function it should.

The medical school should conduct, along with the regular summer school of the University, courses in the various clinical and laboratory sciences. Opportunities would thereby be given the medical profession to attain and maintain a high degree of efficiency.

To sum up then the relations between the medical school and the profession—the former can be of inestimable value to the latter through extension work, short courses, library, laboratories, hospitals, and summer school. Conversely the school will be vastly benefitted by the rich contribution that will come from the profession. This contribution will be in the nature of experiences, observations, and a variety of rare and interesting cases that will serve for teaching and research.

Is it not a fact that the medical profession itself will even magnanimously contribute financially to an institution which bears so close and beneficial a relationship?

Kansas has suffered to the extent of millions of dollars and untold numbers of lives as a result of vast influx of untrained men, charlatans, and fakers who have mercilessly exploited their diabolical wares upon a suffering and unsuspecting public. By first educating the public and bya close interrelation between the school and the physician these servants of Baal can be completely eradicated in time much more effectively than by laws stating only the minimum of training.

In order then to attain the highest efficiency both in curative and preventive medicine—a duty which every state owes to its citizens—a completely equipped medical school is indispensable.

In conclusion I shall take this opportunity to criticise this communication. Fault may be found with the various items of expense quoted. Figures without other knowledge are especially unsatisfactory things upon which to base conclusions. However, they were taken from the latest report and are used only for the purpose of illustration. In no wise has it been my purpose to reflect in any way upon those who are in control of the various state hospitals. There is no doubt in my mind but that these are as efficiently governed as can be under the existing conditions.

Shock, Its Nature and Prevention.

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In a recent book entitled "Anoci-Association" Dr. Geo. W. Crile has elaborately presented his ideas on the nature of shock and his methods for its prevention. The purpose of this article is to give, without any coloring of the writer's own opinion, a brief statement of Dr. Crile's views, first, concerning the nature of shock, and, second, concerning the prevention of shock in surgery.

I. ..THE NATURE OF SHOCK.

Dr. Crile states his theory thus: "Shock is the result of excessive conversion of potential energy into kinetic energy in response to adequate stimuli." The adequate stimuli affect the organism through nociceptors. Prolonged or excessive stimulation of these receptors by nocuous stimuli produces lesions in the cells of the brain, suprarenals and liver, which are the organs concerned particularly in the conservation and control of the energy of the body.

This interpretation is based largely upon the findings in the histological pathology of shock, experimentally produced. In the brain, suprarenals and the liver, Dr. Crile and his associates find the effect of shock upon the cells is the same: at first, hyperchromatism, followed by hypochromatism which is accompanied by exhaustion. In the latter process four stages may be recognized—(1) chromatolysis, (2) alteration in the nucleus-plasma relation, (3) rupture of the nuclear and cell membranes, and (4) disintegration of the cell.

As the result of pure traumatic shock these phenomena have been produced in dogs under anesthesia. In the nervous system the effects were most marked in the cerebral cortex and cerebellum, although they were also perceptible in the medulla oblongata and spinal cord. That this effect is produced through the nervous system and not indirectly through the blood is proved by two lines of evidence. First, there is no histological evidence of shock in the brain of traumatized dogs in which the spinal cord has been severed between the seat of trauma and the brain. Second, if one of two dogs which have their circulation crossed is traumatized the traumatized dog alone shows the effect of shock in the brain cells. Furthermore, cell changes were found in traumatized dogs that had been over transfused to overcome the effect of cerebral anemia resulting from shock. The latter factor, therefore, is not the primary one in causing lesion in cells. It is, however, a secondary factor, since the prevention of cerebral anemia by transfusion tends to reduce the effect of shock. The inefficiency of ether to prevent shock is shown by the fact that trauma under curare caused no more serious changes in brain cells than did trauma under ether.

Emotional shock, also, affects the structure of cells. In rabbits which had been kept for a long period in constant fear of attack by dogs, without accompanying trauma or muscular exertion, the brain cells show practically the same changes as those which result from physical injury. Dr. Crile claims that ten per cent of the Purkinje cells were actually destroyed in rabbits that had been subjected to such emotional shock daily for two weeks. To quote the authors—"In cats the emotion of rage caused a striking increase in the output of adrenalin, but in cats subjected to fear and rage a month after the division of the major and minor splanchnic nerves, there was no increase in the output of adrenalin. * * * In rabbits acute fear caused a rise in temperature of from one to three degrees, excepting in thyroidectomized animals whose temperature remained subnormal."

The effect of many toxic substances upon the structure of the cells of the brain, suprarenals and liver was found to be the same as that of traumatic or emotional shock. Among such toxic substances and foreign organisms studied were streptococci, staphylococci, colon bacilli, gonococci and tetanus bacilli; placental extracts intravenously injected, peptones, leucins,

skatol, extracts of feces, and alien blood serum. Anaphylactic shock had similar effect. In all these cases there was a large output of adrenalin; but not so when the blood supply or the nerve supply to suprarenals had been cut off, or when the suprarenals had been excised. However, neither changes in the brain cells nor increase in the output of adrenalin followed the administration of urethane, nitrous oxide or morphine. Following the administration of ether, adrenalin increased in amount only during the stage of excitation. Morphine, on the other hand, prevented cell changes ordinarily consequent upon the administration of toxins and foreign proteids. Morphine, also, causes a reduction in the amount of adrenalin below normal. Strychnine causes the same brain cell changes as does trauma, and excites the secretion of adrenalin beyond normal.

In a particular study of inhalation anesthetics in their relation to shock, experiments have shown that, under approximately equal trauma, the changes in the brain cells are three times as pronounced under ether anesthesia as they are under nitrous oxide anesthesia, while fall of blood pressure was approximately two and one-half times greater under ether than under nitrous oxide. The general condition of the animal, also, becomes worse under ether. This is explained upon the basis that ether is a solvent of tissue structures while nitrous oxide interferes with the use of oxygen by the cell without attacking the cell itself.

Of various forms of trauma, crushing and tearing are the most potent in producing the histological effects of shock. Thermocautery of the abdominal and pelvic viscera is ineffective to produce shock because there are no receptors for heat stimuli in those organs. Slow and complete destruction of an entire cerebral hemisphere of a dog under anesthesia produced none of the effects of shock upon the cells of the brain. The regions of the body, therefore, vary in their shock-producing value according to the development of the nociceptors of the region.

II. THE PREVENTION OF SHOCK.

In several earlier articles as well as in the recent book, Dr. Crile insists that there are two phases of shock which seriously affect the welfare of the patient, namely, the psychic and the operative. No single anesthetic meets the requirements for preventing both psychic and operative shock, hence anesthetics are selected and combined as required in particular cases.

Psychic shock, from which all patients suffer more or less while many suffer severely from it, arises from two sources —anticipation of the operation and struggle against the anesthetic.

The effect of emotional excitement, anxiety or fear, is illustrated in the history of a case of exophthalmic goiter which is particularly noteworthy. To quote, "The patient's brain was cut off from traumatic or psychic stimuli from the time she was anesthetized in bed till she was returned again from the operating room. There was no increase in the pulse rate at the end of the operation." A sister of the patient who accompanied the latter to the hospital knew of this operation and its seriousness, and "while waiting for the patient's return from the operating room her pulse rate rose to 124." The patient's pulse before the operation was 121; after the operation, 119. The sister's pulse before the operation was 84; after the operation, 124.

It is in exophthalmic goiter particularly that patients suffer from emotional excitement in anticipation of an operation. "The mere proposal that an operation be performed becomes a pathological excitation which may so increase the disease that the patient is even less able then than before to make his mind up to submit to adequate treatment. On all sides the patient is beset by vicious circles, by pathological interactions. The ideal plan of approach, therefore, is to assure the patient that his malady is curable, that treatment can best be administered in a

hospital; that unoperative measures will first be tried, but that, if they prove inadequate, a simple operation will be performed; that it will be best to leave the final decision as to the advisability of an operation to his medical adviser; and that, since even the discussion of an operation is both unpleasant and injurious, it will be best not to open the subject again." For several days, then, fictitious administration of nitrous oxide is practiced so as to accustom the patient to this without arousing fears. Upon favorable occasion an hypodermic of morphine and scopolamin is given; nitrous oxide is added to the oxygen inhalation and the patient falls asleep without any excitation from fear or resistance. Dr. Crile lays great emphasis upon this phase of treatment for the prevention of shock, and also upon full familiarity with the patient and his condition as a whole, on the part of the surgeon.

In addition to the use of morphine and fictitious inhalation anesthesia to prevent psychic shock, Dr. Crile advocates strongly the use of nitrous-oxide-oxygen instead of chloroform or ether, because the strangling effect of beginning and the nausea following the anesthesia are by this means avoided, largely or wholly.

For the prevention of operative shock Dr. Crile emphasises first of all the importance of sharp dissection and gentleness in handling the tissues. Friction upon the organs by the use of gauze should be avoided as much as possible. Fascia or adhesions should never be torn. These should always be cut with a knife of razor edge. The "bloodless line" of adhesions should be followed with the razor edge with all possible patience and caution.

To reduce still more the operative shock Dr. Crile uses novocain as a local anesthetic in all tissues where shock may arise. He infiltrates the skin before the initial incision; then the fascia, cuts the muscle with a sharp knife, then infiltrates the peritoneum ahead of the incision. By the same means he then blocks the stimuli from the viscera by further infiltration wherever necessary. This practice absolutely prevents muscular rigidity, and enables the operator to work upon the organs in situ. When, in spite of these precautions, evidence of shock begins to appear in the respiration and pulse during the operation, morphine and scopolamin may be administered in small doses till the desired effect is attained. When cerebral anemia is indicated hemorrhage must be particularly avoided, and in extreme cases transfusion of blood may be resorted to.

The postoperative discomfort, also, is given attention. To alleviate this quinin and urea hydrochlorid are injected at a distance from the wound in cases where it is not rendered unsafe by the presence or danger of infection.

As a result of the development and application of his technique of anoci-association Dr. Crile claims that the death rate from all operations in Lakeside Hospital was reduced from 4.3 per cent in 1908 to 1.9 per cent in 1912 and 1.8 per cent in 1913.

———R———

A Case of Apoplexy.

W. S. LINDSAY, A.M.M.D., Topeka, Kansas.

Read before State Society, Kansas City, May, 1915.

This paper is simply the report, with some comments, of a case of apoplexy of irregular and unusual character.

On June 12, 1914, Mrs. D. from Oklahoma was brought to me. The following history was elicited: Age 41; occupation farm work—not house work; hired house help and took her place with the stock and in the fields. She has also kept the bank account; was the leader in business with her husband in the management of a stock ranch.

There was domestic trouble of extreme stress. Patient had been separated from her husband, reunited, and later sent to Topeka without money and with a charge of infidelity.

The latter was reasonably untrue. Her claim was that she was deported to get rid of her and get her property.

Last December 18th felt an attack coming for at least twenty-four hours. During this time there was dull thinking, dizziness and at last unconsciousness. The tongue was bitten. This was followed immediately by a left hemiplegia which disappeared in a few months.

Since this seizure there have been three others during which consciousness was lost. There have also been frequent attacks of hysterical character which were relieved by massage. Menstruation has been absent three months. Mother ceased to menstruate at forty-one. At fourteen had severe attacks of headache. At eighteen was troubled with attacks called nightmare.

Patient is well nourished, but sleeps very poorly.

Examination shows normal eyegrounds, reflexes, urine and pulse. The face is extremely red. During the examination has hysterical attack. Is emotional, seems to desire sympathy and to have something done for her.

After the seizure there was normal reasoning, entire coherence, but an intensity of speech and frequent repetition of words.

Patient was admitted at the hospital, where she remained one month, during which time she was in bed. She complained of occasional dizziness but had no seizure, hysterical or otherwise. Has slept well and is quite cheerful.

She was then taken to a country home. During July and August she walked about the yard and seemed fairly comfortable except the dizziness, which recurred at frequent intervals and an increase of speech defect. Visiting her on August 20 I found erythromelalgia with much pain in the limbs.

I did not visit the patient daily. On September 9 I found right hemiplegia which had not been attended by a noticeable seizure.

On October 15 a convulsive attack occurred and on the following day I found exaggerated right tendon reflexes, blood pressure 100, with contractures of right arm and hand. On December 1 a trace of albumen was found in the urine. December 12, report of Wassermann was negative. Speech reduced to "Yes, yes, no."

January 4 Doctor T. C. Biddle saw the case with me. At this time the left eyeball was much congested, protruding, and there was a patch of ecchymosis extending from inner canthus of left eye to middle of forehead.

January 27 an eliptical piece of bone was removed over third frontal convolution. The membranes protruded somewhat. On cutting the membranes there was a marked protrusion of the brain. The convolutions were separated with the index finger when about two ounces of straw colored fluid, with broken down brain substance was discharged.

Immediately there was collapse of the protrusion and the membranes were easily sutured over a silkworm drain, which was left to discharge through the original trephine opening. During the succeeding twenty-four hours several ounces of fluid thoroughly wet the dressings.

There was no odor to the discharge. There was no chill or rise of temperature following the operation and the wound healed promptly.

Within a few days the vocabulary was increased and the patient manifested a childlike pleasure at being able to talk so much. Attempts to have her write with the left hand were made on varjous occasions but always failed—the patient becoming excited and saying "No! No."

The redness about the orbit was lost. also the protrusion of the eyeball disappeared within a few days.

During three weeks following the operation the improvement in speech was marked; since that time it has not improved.

The condition here is reasonably attendant upon the apoplexy. The first seizure like many such, resulted in absorption of whatever extravasation occurred. The second outburst was gradual, but so much greater, that its results are still present.

An organized clot has doubtless formed

which has interfered with absorption of cerebrospinal fluid, as is the condition in many tumor cases. It is also possible that hypersecretion has occurred as an expression of disturbed brain metabolism.

The unsettled question as to whether the glandular structure of the choroid plexus secretes all of the cebrospinal fluid or whether part is exuded from the perivascular system of nervous tissue is interesting in this connection.

Another point of interest is the low blood pressure recorded on October 16, about one month after I discovered the hemiplegia and when the pressure of spinal fluid was great enough to cause convulsive seizures.

Increase of cerebrospinal fluid coincident with the fall of blood pressure is thought to be due to the sudden dilatation of cerebral sinuses forcing out fluid which had accumulated in the ventricles and subarachnoid spaces.

It has been shown by a series of observations that brain extract will cause increase of cerebrospinal fluid by stimulating the epithelium of the choroid plexus, and that this is wholly independent of the fall of blood pressure. Also, that thyroid extract has an inhibitory effect on this function.

Patient is now taking thyroid extract, one grain three times a day. The blood pressure is 122.

MISCELLANEOUS.

Paronychia.

Isadore Seff and S. Berkowitz, New York (Jour. A. M. A., July 17, 1915), describe a technic for operating an paronychia which they have used in a series of 300 cases and which not only relieves the pain but also shortens the disease and prevents disfigurement. Acute and chronic cases are treated alike. The finger is first placed flat on the table and with the eye part of the probe held at right angles to the finger nail, the cuticle is very slowly pushed backward along its entire extent until the proximal portion of the nail appears. In some cases soaking the finger in hot boric acid solution facilitates this step. It is important to push backward against the cuticle and not downward against the nail, as in the acute cases the latter procedure is always painful. The probe is hooked under the diseased nail at the proximal portion, the edge of the nail is cut longitudinally for a distance of one-eighth inch and each side of the cut edge is grasped with either forceps or an artery clamp and the nail is cut transversely, the corners being completely removed. Pain is seldom produced, as the inflammation has separated the proximal portion of the nail from its bed. Attempts to remove more than this separated portion of the nail are very painful and the distal portion is left untouched to protect the underlying nail bed and is later forced off by the new growing nail. A wet dressing of boric acid solution is applied and the patient instructed to bathe the finger if it becomes painful in hot boric acid solution every three or four hours. An analysis of the cases is given. The *Staphylococcus pyogenes* was the predominant infection. Eighty-five per cent of the patients had no pain during the entire operation, 15 per cent had only a little discomfort. No anesthesia, local or general, was required in any case and dressings were removed in from ten to fourteen days.

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Walker and Klein, in the Post-Graduate, describe a test which is said to aid the diagnosis of cancer and sarcoma. The urine of the patient is treated with tenth-normal iodine solution and hydrochloric acid. The color obtained is compared with two previously-prepared standards, one of which corresponds closely to the color of the urine of a malignant case after the test has been applied, and the other is about the color of normal or non-malignant urine after the reaction has taken place. Comparison of the color produced in the test sample with these standards indicates whether the disease is in an advanced state or whether it is incipient.—Druggist Circular.

THE JOURNAL
of The
Kansas Medical Society

W. E. McVEY, M.D. - - - - - Editor

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Medical Education in Kansas.

The attitude of the Governor toward medical education in Kansas was very clearly set out in the letter accompanying his veto of the appropriation for a new building at Rosedale. There is no evidence at this time that he realizes the importance to the state of a well equipped medical school. He is unable to appreciate the benefits of such an institution to the people of Kansas and he estimates its economic value in terms of graduated doctors at so much per head. Because the physicians of the state have not fully appreciated the educational facilities afforded at Rosedale the Governor was able to make his figures show an apparent extravagance in this department. Had the clinical school been able to show a graduating class as large as its capacity would permit the Governor would have needed some other argument in defense of his veto. The reputation of the school and the number of students it enrolls depends very largely upon the attitude of the profession toward it. No matter how sincere and persistent the efforts of those in charge of the affairs of the school may be, if they are not supported by the good will and the interest of the profession, very little progress can be made.

The last few sessions of the legislature have demonstrated that the demand for adequate appropriations for the medical school must come from a larger and more insistent part of the people than heretofore.

Dr. Sundwall, in his paper in this issue, has made an exhaustive analysis of the possible resources for medical research and for medical education in this state. One can only regret that among the great medical men who helped to make the early history of Kansas there was no one with such a conception of the advantages to future medicine in such a concentration of state institutions, and such an assemblage of material for study. One can only regret that since then there has been no one with an outlook into the future broad enough, and prestige and power strong enough, to have brought about such an ideal condition of things. Even now public health, in its broadest sense, with all its contributing factors, would not make an issue of sufficient importance with the people to successfully oppose the demands of those who see the more tangible benefits from a wider distribution of the state institutions.

Much can yet be accomplished for medical education in Kansas. Much more can be accomplished when physicians fully realize the advantages to be derived from a well equipped medical school in the state. We must ultimately get rid of the idea that the only function of a medical school is the preparation of young men to enter the practice of medicine. Under the old regime this was ostensibly the only purpose of a medical college, though often the greatest benefits were derived by the instructors in the school, not only in the way of business but in the increased proficiency which resulted from the enforced study and research. With the great advance in medical education the medical school has taken a new place in its relation to the profession. The instruction of students and the granting of degrees is, under the new regime, but one of its minor

functions. The faculties of the great medical schools of today are composed of men specially trained for research into the still unknown fields, men who are working for the advancement of medical knowledge, and men of experience and ability who have passed beyond the need of self promotion. And the greatest benefits from a great school, under the present regime, are available to the man in practice, the man who can appreciate the value of the discoveries that are being made and who can put them to the most practical and profitable uses. A full realization of this greater function of the medical school, by the profession and by the people, is particularly essential for the highest development of those schools which are dependent upon the state for support.

But in Kansas where the medical school is regarded as a sort of business college, at least by the politicians of the state, something must be done to demonstrate the need for such an institution, for in this state there is a most urgent and immediate need for larger appropriations. If we determine the view point of the average politician by that of the Goveruor. the solution of the problem is not difficult. The state has a right to question the policy of maintaining a costly institution for which, after ten years of existence, there is practically no demand. It is up to the physicians of Kansas to show that there is a demand for the school at Rosedale and that the work it is doing is appreciated. There are enough medical students in the state to tax the full capacity of several schools as large as the one at Rosedale and if the members of the Kansas Medical Society will use their influence in behalf of our own school they will do these students no injury and they will more than double the attendance there. Why should we not recommend this school? Is there any good reason why your son, or your friend's son, should go elsewhere for a medical education? Handicapped as it is by lack of funds, overburdened as it is with supervision, the teaching facilities at the medical school are excellent, the men who do the work are competent, energetic and enthusiastic. Those who are graduated at Rosedale are as well educated, are as carefully trained and are as well qualified to practice medicine as those who are graduated in Chicago, St. Louis or any of the large cities. It ranks high with the other medical schools of the United States and its diplomas are recognized everywhere.

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The college-made doctor is a finished product. He is all there—that ever will be there—at the end of his college course. No matter how reputable the school that finished him he will never add anything to its credit. The men who accomplish things in medicine are always in the making—they are never finished. Members of the medical profession, more than other people, are inclined to judge the ability of a doctor by the school from which he graduated. It is an absurd thing to do. A man in the practice of medicine is only what he proves himself to be. There are plenty of failures among the graduates of the best medical schools in the world. The man who does not study as hard after he leaves school as he did in school will never rank very high among capable physicians.

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In a recent publication there appeared an article referring to a certain doctor who had exhibited some "quack" instincts and in explanation it was stated that "he was a graduate of a low-grade school that is now out of existence." It was further stated that he had practiced for a quarter of a century. If we are to determine the grade of a school by the present standard, most of us who graduated twenty-five years ago received our degrees from low-grade schools many of which are now extinct. Even the man who presumably wrote the article referred to is a graduate of a low-grade school which is now out of existence, but no one would now have the temerity to question his ability or to call him a quack.

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The proposed addition of a year in the hospital to the regular medical course,

which the Council and the Association have had under consideration for several years, will soon cease to be a matter of much concern. Either because they appreciate the advantages of such a course or because they believe it will ultimately be required, a quite large per cent of graduates are taking the hospital year of their own volition. Fifty per cent of the 1915 graduates of one of the western schools accepted hospital appointments for one year or more.

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The very marked advance which has been made in medical education has shown remarkable changes in the type of men taking up the study of medicine. The medical student of yesterday was ambitious for his degree so that he might get into the practice as quickly as possible. The medical student of today is ambitious to acquire all the knowledge of medicine it is possible to obtain, with apparently no concern for the time consumed and no thought for the practice he expects to enter.

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The degree which, in this country, has been conferred upon the graduate in medicine has heretofore been recognized only as an academic degree. Now that the requirements for entrance upon the medical course generally include two years of college work, and a baachelor's degree is conferred after completing two years of the medical course, it would seem that the degree of Doctor of Medicine should be entitled to rank in the same class with other Doctor's degrees.

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Dr. E. E. Uhl of Baldwin spent June and July in attendance at the Chicago Polyclinic.

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Dr. Katz in Trouble.

The following appeared in the Topeka Capital a few weeks ago:

"The first big gun in the United States government's war on wholesale traffic in morphine and other drugs in Kansas, was fired yesterday at Wichita, with the arrest of Dr. C. L. Katz, of that city. The physician will be prosecuted on the charge of a violation of the Harrison narcotic drug act, according to a statement by L. S. Harvey, assistant United States district attorney at Topeka.

"The United States district attorney's office is now in possession of 542 prescriptions for unusually large quantities of morphine, opium and heroin, that were written at Wichita by Dr. Katz, for numerous persons living in that city and for several living in other cities. The 542 prescriptions were written between March 1 and July 13, this year—a period of 135 days.

"Besides the prescriptions in Doctor Katz's handwriting, he wrote lengthy explanations on the prescriptions, citing his reasons for prescribing such large doses. The government officers here have not learned that the physician sent any of the drugs through the mails."

Dr. Katz is a member of the Leavenworth County Society.

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Dr. A. B. Peters Dead.

Dr. Alexander B. Peters, of Mankato, died suddenly Tuesday evening, July 20, while seated at his desk after a busy day, during which he was as well as usual. Dr. Peters was 68 years of age, past grand medical examiner of the A. O. U. W. of Kansas, for long years Rock Island surgeon at Mankato, had served as mayor of the city, was prominent in Republican political circles and was one of the most widely known physicians in northern Kansas.

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A Kansas physician recently reported a case, or rather it was reported in the newspapers, which, if true, is rather interesting. A child was brought to him with a sore throat and a history of having swallowed a blade of grass. The sore throat was given attention, but in a short time the child was again brought to him with a lump on its back. On incising this the blade of grass appeared.

American Proctological Society.

The seventeenth annual meeting of this society was held in San Francisco, June 21 and 22. The presiding officer was Louis J. Krouse, M. D., of Cincinnatl, Ohio. Dr. T. Crittenden Hill, of Boston, was elected president for the ensuing year and Dr. Alfred J. Zobel of San Francisco, secretary.

We give below an abstract of come of the papers presented.

"Rectl Prolapse and Its Mechanics."—By Wm. M. Beach, M. D., of Pittsburg, Pa.

Dr. Beach feels assured that many of the victims of dyschezia could give a history of prolapsus in childhood. He states that we are coming to think of prolapsus in terms of hernia, the verity of which must be determined from a consideration of the pelvic fascia and intra-abdominal pressure. Under the head of treatment he states that a number of surgical proceedures have been devised and advocated for the restoration of the dislocated rectum; that they have seemed to succeed for a time, only to prove a failure later on.

"Emetin Hydrochloride in the Treatment of Amebic Dysentery."—By Geo. B. Evans, M. D., of Dayton, Ohio.

Dysentery may persist for months or years after the amebic ulcerations have been healed, without amebiasis being present. It may exist in a mild or severe form. A positive diagnosis can only be made by the aid of a microscope. The smears should be taken preferably from the ulcerations on the free border of the rectal valves. The author believes that treatment by irrigation is a thing of the past. It has been supplanted by emetine hydrochloride hypodermically. The conclusions are that what quinine is to malaria, and mercury to syphilis, emetine hydrochloride, hypodermically, is to amebiasis.

"The Present Status of Local Anesthesia in the Surgery of the Lower Bowel."—By Louis J. Hirschman, M. D. of Detroit, Mich.

Dr. Hirschman employs local anesthesia in the surgical treatment of the majority of his cases of anal and rectal diseases, as well as in a small proportion of cases involving surgery of the colon. The results in both classes of surgical operations have been so satisfactory to both the patient and surgeon that the author advocates with great earnestness the further employment of local anesthesia not only in the field of intestinal surgery but also in every branch of surgical activity where absolute unconsciousness of the patient is not a strict necessity.

"Which is the Best Anesthesia to be Used in Anal and Rectal Surgery?"—By Wm. H. Kiger, M. D., of Los Angeles, Cal.

Dr. Kiger called the attention to the ease of administration of spinal anesthesia; that it may be given without the assistance of an expert anesthetist; that it saves time by doing away with the delay incident to an operation under a general anesthetic; that by its use the dangers of chloroform and ether are eliminated, as are also their after effects; that when it is employed there is no need to dilate the sphincters as all the operator has to do is to ask the patient to strain and the gut will easily protrude through the relaxed sphincters; and finally that it avoids shock.

"Further Observation on the Treatment of Pruritus Ani by Autogenous Vaccines."—By Dwight H. Murray, M. D., of Syracuse, N. Y.

In making the fifth report of his original research work on Pruritus Ani and Pruritus Vulvae, Dr. Murray gave the results of the examinations concerning the etiology of twenty-one additional cases, together with their treatment, complications, and present condition. He also reported further on the cases previously examined, treated and reported. He believes that he is still justified in emphasizing the claim the most cases of Pruritus Ani and Vulvae are due to a local infection which may be benefitted by treatment with autogenous vaccines.

Where he was unable to find streptococcus infection at the first basteriologic

examinations, this year when the patient had a slight relapse streptococcus fecalis was found. This gives additional evidence that infection may be present and yet the bacteriologic report not show it. Even when we have the knowledge that it is a skin infection; that the phagocytic power of the blood is below normal for the infecting bacteria; and that the vaccine injections give the best and most lasting relief; yet we are still unable to give patients a definite statement as to the number of treatments or length of time necessary before improvement will begin. Nor are we able to assure them that no relapse will occur.

The Ultimate Nervous Results of Acute Angulation of the Sigmoid, and the Consequent Fecal Stasis. By Wm. H. Axtell, M. D., of Bellingham, Wash.

Dr. Axtell divides the nervous end results into three general types:

(a) Severe type; Including acute mania.

(b) Moderately severe type; including melancholia; chronic sciatica; chronic lumbago; trophic corneal ulcers.

(c) Mild type; including eczema; the apathetic; the neurasthenic.

Dr. Axtell's conclusions are:

(1) Many casese treated as typhoid fever are simply cases of constitutional and systemic infection from putrefactive toxius of the alimentary canal.

(2) If the true condition were recognized at the outset, and if the colon were thoroughly cleansed of the soil for the growth of typhoid bacteria, there would be fewer cases of typhoid fever.

(3) Physicians do not as a whole examine the rectum and colon with the same degree of precision that they do other parts; they do not have a true appreciation of its importance; nor do they comprehend what persistence is required to empty the colon.

(4) We are all too much inclined to cling to precedent, rather than to act according to the conditions found.

BOOKS.

The Clinics of John B. Murphy, M. D.

Number 3 of Volume IV. Published by W. B. Saunders Co., Philadelphia. In this number, under Clinical Talks on Surgical and General Diagnosis, the following subjects are covered: Diagnosis of Injuries of the Carpus; Fracture of the Left Carpal Scaphoid and Dislocation of the Semilunar; Dislocation of the Left Unciform Bone; Transverse Fracture of the Left Carpal Scaphoid, Semilunar Dislocation, and Fracture of the Ulnar Styloid; Dislocation of Right Semilunar Bone and Fracture of Right Ulnar Styloid Tip—Fracture of Left Ulna in its Upper Third.

The general topics discussed are as follows: Appendicitis; Intestinal Obstruction Due to a Large Gall-Stone; Unsuccessful Gastro-Enterostomy for Ulcer; Friction Burn of Left Ankle—Closure of Defect—; A Series of Drawings; Embryonic Tumor of Testicle; Tuberculosis of the Left Spermatic Cord and Epididymis; Chronic Tendovaginitis of the Extensor Tendon of the Thumb; Painful Exostosis of the Os Calcis; Congenital Perineal Fecal Fistula; Hypernephroma of the Right Kidney; Myeloid Sarcoma of the Left Malar Bone; Malignant Epulis of the Mandible.

Practical Medicine Series.

We have just received volumes III. and IV. of the Practical Medicine Series for 1915. Each of these volumes is one of a series of ten issued at about monthly intervals and covering the entire field of medicine and surgery. Each volume being complete for the entire year prior to its publication on the subject of which it treats. Volume III. is devoted to the Eye, Ear, Nose and Throat, and is edited by Casey A. Wood, M. D., Albert H. Andrews, M. D., and William L. Ballenger, M. D. The price of this volume is $1.50. Volume IV. is devoted to Gynecology and is edited by Emilius C. Dudley, M. D., and Herbert M. Stowe, M. D. The price of this volume is $1.35. The price of the whole series is

$10. Published by The Year Book Publishers, 40 Dearborn St., Chicago.

Prevention and Treatment of Infections.

By Oliver T. Osborne, A. M., M. D., Professor of Therapeutics and formerly Professor of Clinical Medicine in Yale Medical School; Member of the Council on Pharmacy and Chemistry, etc., New Haven, Conn.

Published by The Journal of the American Medical Association.

This is an elaboration of the articles which appeared in the Journal of the A. M.A. under the title "Prevention is Greater Than Cure." In this little book the following subjects are discussed:—Some Common Factors of Immunity, Vaccine Prevention and Vaccine Therapy, The School Question, The Common Infectious Diseases, Diseases of the Respiratory Tract, Hookworm Disease, Whooping Cough, Mumps, Diphtheria, Septic Sore Throat, Measles, German Measles, Chicken Pox, Scarlet Fever, Cerebrospinal Fever, Acute Anterior Poliomyelitis.

The book is quite complete and quite up to date. Though it is not intended to cover a very wide field those subjects have been included which are of most practical value to the practitioner.

The Medical Clinics of Chicago.

Volume I., Number 1., Published bimonthly by W. B. Saunders Co., Philadelphia, Pa. Price per year $8.00.

It is the purpose of this new publication to present the clinics of some of the best clinical teachers in Chicago in every department of internal medicine. The contributors to the first number are Dr. Charles L. Mix of Mercy Hospital; Drs. Isaac A. Abt and Maurice L. Goodkind of Michael Reese Hospital; Dr. Robert S. Preble of St. Luke's Hospital; Dr. Charles Spencer Williams, Dr. Frederick Tice, Dr. Walter Hamburger and Dr. Ralph C. Hamill of Cook County Hospital.

Among the subjects presented in this number we note the following: Lung Abscess, Lesion of the Cauda Equina, Nephritis, Hepatic Abscess, Gout, Infantile Tuberculosis, Sarcoma of Kidney, Chronic Lymphatic Leukemia, Renal and Cardiac Insufficiency, Pneumonia, Tabes, Cholelithiasis, Syphilitic Aortitis, Hour-Glass Stomach, Congenital Pulmonary Stenosis, Aneurism of Arch of Aorta, Syphilis of Central Nervous System.

MISCELLANEOUS.

Gastric Cancer.

Gastric cancer in its medical aspects is the subject of the address of Dr. J. C. Bloodgood, president of the American Gastro-Enterological Society at Baltimore, May 10, 1915 (Journal A. M. A. June 19, 1915). His observations were based on 184 cases of carcinoma of the stomach seen in the Surgical Pathological Laboratory of the Johns Hopkins Hospital during a period of almost twenty-five years. He finds from a reading of the literature that those surgical clinics in which the total number of cancers of the stomach was larger than the total number of gastric ulcers had a larger percentage of inoperable cancers and a smaller percentage of cures in which resection was possible than those clinics in which ulcers of the stomach were more numerous than cancer. In the Johns Hopkins Surgical Pathological Laboratory up to date the figures are: stomach ulcer, 132 cases; cancer, 184 cases; operation, 45 cases; exploratory laparotomy, 49 cases; gastro-enterostomy, 41 cases; total inoperable cases, 135; resection, operable cases, 49. Thus the operable cases cases are only 26 per cent. The table given shows that experience with cancer of the stomach really did not begin until 1905. From 1890 until 1905 there were but 35 cases and from 1905 until 1910 there were 76, more cases being refered to the surgeon than previously. In the next five years, from 1910 to 1915, a larger number are being referred, up to date 73, of which 39 per cent. were operable, showing that cases are being recognized earlier and referred to surgical

treatment at a more fovorable period. Up to 1910 there were only two cures, a little less than ten per cent. of the operable cases. Among the 28 cases of resection in the period from 1910 to 1915 there is one patient still living nearly five years after being operated on, and if the others living remain well the percentage of cures may be increased to nearly 20 per cent. The figures confirm the impression gained from the literature that with the greater recognized number of ulcers of the stomach than of cancers there is an increased proportion of cures. A second table is given to show the duration of disease to operability, taking as duration the period of continuous symptoms. The chief symptom has been abdominal discomfort in the stomach region aggravated by eating, nausea, belching, vomiting of blood, and blood in the stools. The percentage of operable cases in which symptoms have been present only three months is 29. With six months it falls to 23, nd with twelve months' duration, 21. Bloodgood has found this to be about the proportion in cancer in other situations. If the cancer is preceded by a non-malignant lesion there is no definite time in which it may develop; we may find operable cases after long, lasting symptoms, and it seems impossible, in the early stages, to differentiate cancer from ulcer of the stomach. His figures convince Bloodgood that many cases of cancer of the stomach arise in non-malignant lesions, probably ulcer. A large number of patients go a long time with continuous swmptoms before calling for surgical aid, a few seek help within a few months after relatively slight symptoms, but have undergone rigid examination by good internists. This, Bloodgood thinks, is the key to the situation. The public should be educated that epigastric discomforts aggravated by eating solid food is a sufficient warning, not that they mean cancer, but that they should have a competent physician look into the case. Inoperability and risk of mortality increase with delay. Three cases in which the cure has lasted for a number of years, from four to eight, are reported.

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Auricular Fibrillation.

H. E. B. Pardee, New York (*Journal A. M. A.*, June 19, 1915), maintains that in patients with auricular fibrillation, contrary to the usual opinion, this irregularity does not probably increase the gravity of the prognosis. The beginning of fibrillation is sometimes sudden and severe; the heart becomes rapid from the start, 120 per minute. More frepuently the rate is slower than this, somewhere near 80 per minute, and this rythm may be present for a considerable time without subjective symptoms. On attempting moderate exertion the rate increases and dyspnea, palpitation or precordial discomforts appear, though not lasting long at first. Without treatment the condition becomes worse. The dyspnea is more easily induced, the heart rate is increased in the intervals, the edema appears and the patient is confined to his room. The heart cannot maintain its efficiency with a shortened diastole due to the rapid ventricular rate, it tires more and more easily, and finally is altogether unable to carry on a sufficient circulation. This breaking down takes a variable period of time, depending on the quality of the muscle, the demands made on the heart, or associated pathologic conditions. The range may be from three to many months. Under energetic treatment with digitalis, the cardiac failure is corrected. Twenty minims of tincture, four or five times daily, or its equivalent, will usually relieve the dyspnea and palpitation and reduce the heart rate. Gradually reducing the dosage the toxic effects can be avoided, and the patient recover his strength and is able to go about much as before, though the heart has been damaged and should be kept under medical observation. Pardee reports a number of cases, supporting his contention, and emphasizes his conclusion that the prognosis in such cases should be less gloomy than it has been. It is only recently that we have learned the necessity

of continued medication in the treatment of auricular fibrillation. With proper treatment the prognosis should not be more unfavorable than that of the associated pathologic conditions.

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Sugar as a Hand Cleanser.

Dr. D. H. Stewart says: "The most careful antiseptic toilet may be brought to naught by the preliminary use of soap; therefore clean your hands with granulated sugar, and also dress wounds with it if you have nothing better." His experience since 1895 has shown that "with sugar and water, followed by chloride of lime and water, the physician's hands may be rendered sterile." This has been confirmed by laboratory tests. "Granulated sugar is gritty, takes the place of both soap and brush, does the work better and leaves the skin unscratched, soft and smooth."—Mass. Med. Jour.

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Chronic Duodenal Ulcer.

Recognition of the fact that duodenal ulcer is much more frequent than gastric ulcer, the opposite to what was formerly held is remarked by W. J. Mayo, Rochester, Minn. *Journal A. M. A.*, June 19, 1915), in the introduction to his article on chronic duodenal ulcer. He says that there is a type of acute ulcer of the duodenum, probably toxic in origin, which gives rise to sudden severe symptoms often followed by perforation or hemorrhage, and the patients, if untreated, either die or get well within a few weeks. So far as he has been able to observe, experimentally produced ulcers belong to this class and throw little light on the chronic callous ulcers of which he treats. The latter are usually single, seldom begin with an acute attack, and as a rule the earlier symptoms are less severe than the later ones. It is probable that a large percentage of duodena ulcers were never diagnosed at all prior to the knowledge recently obtained, not even at operation, and the extensive peritoneal involvment obscured the location after death. The same causes which produce gastric ulcer cause duodenal ulcer, and Mayo seems to favor as much as any the infection theory. One possible source of injury which may have some bearing on its production as well as that of peptic ulcer and cancer is hot drinks, which he thinks are a rather important factor. The pyloric veins are most valuable in differentiating gastric from duodenal ulcer. They are quite unlike the other veins and serve readily to locate the pyloric ring. A large majority of duodenal ulcers occur in the first 1 1-2 inches, more often on the anterior wall. The deeper larger ulcers and those bleeding excessively occur most often on the posterior wall. Ulcers may exist at any point above the opening of the common duct. A high percentage perforate the bowel coats and are classed as chronic perforations, complete perforation being prevented by thickening and adhesions. Localized peritonitis may occur with spontaneous recovery. In typical cases diagnosis should not fail. The hunger pain and food relief, hyperacidity and hypersecretion, and in the later stages obstructive phenomena, leave little boubt. Accompanying diseases of the gallbladder, appendix, etc., which occur in about 16 per cent, may cause difficulty. Mayo does not put much faith in the finding of occult blood in the stools, and actual hemorrhage according to his experience occurs only in about one quarter of the cases. The Roentgen rays are a valuable aid, and the physical examination, including the use of the stomach tube, is important. Dividing the diagnosis into four parts, the history is of first rank, the Roentgen ray second, the physical examinations third, and the purely laboratory findings a poor fuorth. The intermittancy of symptoms is curious. The disease usually begins in young males (in females, only 17 per cent), and after a period of some weeks of symptoms the patient feels well for weeks or months and then they again recur. The cycle continues over and over again until obstructive symptoms appear and the symptoms become more or less constant, but the stomach may compensate for this by hypertrophy of its musculature as does the heart in valvular disease. The

prospects of permanent cure by medical means are dubious, though Sippy has shown that by means of alkalies, diet, etc., rather long intermissions can be obtained. A recurrence of symptoms after operation is most often due to a defective surgical technic, the occurrence of stitch ulcers, etc. The enthusiastic operator has greatly harmed gastric and duodenal surgery, and pyloric blockage has become too popular. In the majority of cases gastroenterostomy is the ideal operation, and in selected cases excision of the ulcer with gastroduodenostomy of Finney is the operation of choice. Following surgical intervention the patient should be under good medical advice until permanent cure is assured.

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Trombidiosis.

G. M. Olson, Minneapolis (Journal A. M. A., June 19, 1915), describes this disorder, which he says has long been known though infrequently diagnosed. In Minnesota there are many hundred cases each summer, and diagnosis is important, as it causes much suffering and can be readily relieved by proper treatment. The parasite causing it is the red jigger (*Trombidium irritans*). It is an orange-red insect with six legs and is found mainly in the grass and bushes in damp places. In one or two hours the jigger has sunk its head into the skin and the itching begins. Erythematous and other lesions occur, but urticarial lesions constitute the ordinary forms of the disease. It may be found on the feet, ankles, legs and arms, and especially in women about the breasts and waist line. Some persons are immune and the symptoms vary in others from a mere reddening around the bite to a general febrile condition with marked lesions locally. The disease occurs in July, August and September, and must not be confused with the "straw itch" due to a similar mite, which is white instead of red. The disease caused by the jigger flea (*Sarcopsylla penetrans*) does not occur in Minnesota, while the red jigger, according to the author seems to be universal through the Northern states. Prophylaxis consists in keeping away from infested places. The treatment which Olson has found most effective is not mentioned in the books, and consists in extraction of the parasite with a needle and treatment with tincture of iodin.

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Experiment in Respiration.

Saxton Pope, San Francisco (Journal A. M. A., July 3, 1915), reports that in the course of some experiments in respiration, bringing out the theories advanced by Yandell Henderson, an undergraduate student of the University of California Medical School, held his breath for ten minutes. This was done lying on a table with a pneumographic bell attached about his thorax and communicating with a kymograph. Slow deep respirations were taken for about two minutes, eliminating much of the carbondioxid from the blood. A breath of oxygen was then taken and the time marker started. The tracing is shown. The slight relaxation of the respiratory muscles was shown at two minutes. No desire to breathe was experienced until six minutes was elapsed, but the conscious effort to hold breath increased until an involuntary twitching of the abdominal muscle was apparent. The pulse was all the time good and strong, and the color was good. At ten minutes and ten seconds, he could hold no longer. No great hyperpnea, no weakness, no heart changes appeared. The student rose from the table and went about his class work. Mr. Horner, the student, is a swimmer and has taken part in underwater contests. So far as Pope knows, this is the longest holding of breath on record.

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Roentgen-Ray Protecton.

M. Milton Portis (Journal A. M. A., July 3, 1915), says that while there are dangers in the Roentgen ray, due care is not taken by the roentgenologist to avoid them. The problem is a two-fold one, protection against, first, the primary ray, even though it is filtered, and second, the secondary ray, which is present in appreci-

able amount in all parts of the room. Blood changes can be produced in animals by the ray, and it is rational to assume that individuals long exposed may also suffer similarly. Leukemia is a disease noticed in Roentgen workers, and while the published accounts of animal experiments do not all agree, all report changes in the number of leukocytes. Since the fluoroscope has become so largely used the dangers to the operator are increased. In experiments undertaken by Professor Milliken of the University of Chicago, in Portis' Roentgen-Ray room, estimating both the primary and secondary rays by means of the gold-leaf electroscope, the amount of the secondary ray thus found in various parts of the room was surprising. Portis illustrates an apparatus which was found to exclude both rays and make the handling of the Roentgen ray comparatively safe. Susceptibility varies in different individuals, but he urges all workers to use proper precautions.

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Flatfoot.

Referred pain in flatfoot and in weak feet is being constantly overlooked, according to M. Strunsky, New York (Journal A. M. A., July 3, 1915), especially when the referred pain is in a remote part of the body, or when the arches are normal to all appearance. The cure of the pain by proper support given to the arches shows that it must be due to arch strain. He reports two cases illustrating this fact. That pain on the inside of the knee is often due to this cause is a well-known fact, though there are numerous fanciful symptoms thus attributed which he does not here consider, such as paresthesia of the outer side of the thigh, nausea, vertigo, etc. If there is inflammation in the feet it is easy to understand that pain may be caused in any part of the nerve, the terminations of which are subjected to the pressure, but when there is not the slightest tenderness or irritation in the feet, especially in the referred pain in a remote part of the body, as for instance in the arms and between the shoulder blades as in one of the cases here reported, the explanation is not so easy. Strunsky thinks the referred pain in such cases is due rather to disturbance in muscle balance. "The arch is practically the pivot on which the anterior flexor muscles and the posterior extensor muscles of the body are riveted. Any disturbance of the arch causes more pain to fall on one group of muscles, and a compensatory lessened strain on other groups of muscles. Referred pain in flatfoot, especially in the remote part of the body, is due therefore to traumatism of the muscles caused by the disturbance in muscles balance." While the importance of flatfoot and weak feet is much over-estimated it is rather strange that the pain they cause is so often attributed to all kinds of conditions. A fact mentioned by Strunsky which may help to a right diagnosis when the arch appears normal, or even higher than normal, and there is no pain or tenderness in that locality, if the patients have occupations which compel them to keep on their feet for long periods, referred pains from this cause may be considered and the therapeutic test of relieving the strain, or simply padding the feet with felt may verify the diagnosis.

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Colloidal Solutions in Shock.

To meet the conditions of loss of blood in medical and surgical practice and the consequent low blood pressure, J. J. Hogan, San Francisco (Journal A. M. A., Feb. 27, 1915), recommends the use of colloidal gelatin solutions injected intravenously to obviate the loss, which can be only imperfectly done by use of salt solutions. This latter does not remain in the blood vessels, and the blood pressure, brought up by the injections may disappear after a limited time, on account of the lack of the colloids naturally present. He describes and illustrates by graphic curves the effects of injections of salt solution alone or combined with a colloid, showing how the latter tends to hold the fluid in the blood. The best transfusion fluid, of course, is whole blood, but its usefulness is limited by the obvious difficulties and danger of the method. Hence

he has advised a gelatin solution to be added to the salt solution, properly sterilized of course, and reports cases in which it has ben employed by him or under his observation.

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Fluroscopic Bronchoscopy.

Three cases of bronchoscopy, aided by the fluoroscope, two personal, and one seen with another physician, are reported by E. F. Ingals, Chicago (Journal A. M. A., Aug. 7, 1915). The use of the method is indicated in operations in cases in which a foreign body that casts a shadow cannot be extracted by ordinary means, especially those in which it is obscured by mucus, pus or blood or granulation tissue, when it is hidden in an abscess cavity, when a stricture prevents inspection and in difficult cases when the foreign body is lodged in the bronchus so that it cannot be exposed by ordinary methods. In the cases reported, the substances removed were a nail in an abscess cavity, part of a rivet, and a brass-headed upholstery tack. In one case, that of the abscess, the nail seems to have been in the lung for two years, and the patient had been diagnosed as tuberculous.

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Typhoid Immunization.

William Lyster, Washington, D. C., (Journal A. M. A., Aug. 7, 1915), gives the history of typhoid immunization in the United States Army since 1908, when it was first recommended by a board of medical officers and applied to the Hospital Corps, Army Nurse Corps and those members of the army volunteering to receive it. The manufacture of vaccines in large quantities was begun, and at the end of 1911 the majority of those connected with the army had undergone vaccination. The routine immunization of all recruits was begun in June, 1911, and in September of that year it was made compulsory. In 1910 there were 198 cases and in 1912 this was reduced to twenty-seven. In 1913 there were four cases, and in 1914 seven cases were reported. In only two out of the eleven had the complete course of immunization been administered. The benefits of vaccination can hardly be better shown. The standard of sanitation has not been changed in general. The only change of recent years has been a system of conservancy that largely prevents flies entering the latrines and becoming conveyers of disease, but this could have affected only a small part of the army. In other respects the soldiers are almost as completely exposed to infection as are civilians.

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Intestinal Obstruction.

The characteristics of the poison that acts in intestinal obstruction have been studied by G. H. Whipple, San Francisco (Journal A. M. A., Aug. 7, 1915). It can be obtained from a fluid above an intestinal obstruction, from a closed washed loop of small intestine, or from the mucosa of a closed loop or one draining externally through an enterostomy wound. The intoxication varies only in intensity. One can inject this poison into a dog and produce more or less profound intoxication, according to the amount injected. Dogs can be immunized by sublethal doses, but the immunity cannot be carried very high. They can then survive intestinal obstruction or closed loop longer than the control dogs. A capacity of the organ cells of the body is gained to destroy the toxic substance. Filtered immune organ extracts, presumably containing active enzymes, can destroy the poison in vitro, but the blood of immune animals contains no such enzymes, and is inactive toward the poison. When a loop of small intestine is thoroughly washed out and closed and the continuity of the intestine established around it, the following intoxication must be due to either bacterial activity or perverted activity of the mucosa, or to both together. There is no evidence of the former, but the intestinal

mucosa is essential since its destruction with sodium fluorid stops the formation of the poison. The absorption of the poison is not from the lumen of the intestine, but from the mucous membrane which forms it and passes it into the blood, while the mucosa itself may seem almost normal. The chemical nature of the poison is not fairly determined, as it has never been isolated in purity, but almost all the conflicting statements about it are easily explained when it is realized that it is a primary proteose. It is thrown out of a solution rich in albumins by boiling (adsorption), but after autolysis or digestion it may be boiled without harm. Its proteose nature explains why the poison is held back in fine earthen filters, but not by paper filtration. It is not destroyed by digestion with pancreatin for a period of one week, and only with autolysis with intestinal mucosa after months. Its action after intravenous injection in dogs resembles anaphylactic shock. It is precipitated by alcohol, and the precipitate contains all the poison. Water will remove the poison from the alcoholic precipitate. It can be still further purified by precipitation at room temperature with equal parts of a saturated solution of ammonium sulphate, and the precipitate can be collected and freed from albumin in an almost water-clear solution. One hundred mg. of this pure poison given intravenously will kill a 15-pound dog. This isolation of the poison as a pure proteose eliminates all other substances except sodium chlorid and a trace of ammonium sulphate, and since it resists digestion it may be classed as a hetero-proteose. The symptoms produced by it are identical with those of poisoning by loop fluid, and the anatomic picture is the same. We can therefore assume that the intoxication from the closed intestinal loop is due in great measure to the absorption of a primary proteose from the intestinal mucosa. Whipple has not been able to detect the substance in the urine, perhaps because the small amount is fatal, and the flow of urine is inhibited after a large dose. The proteose too, may be changed in some manner before it is eliminated. Diuresis will help in the elimination, and this explains the good effects of salt infusions in intestinal obstruction. Another point of importance is brought up as regards diagnosis. The injection of this toxic proteose causes a great rise in the incoagulable nitrogen of the blood. This seems to depend on the intensity and rapidity of the intoxication, and is of considerable prognostic and diagnostic value. This rise may be four, or even ten times the normal.

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Transvaluations.

In his chairman's address before the Section on Laryngology, Otology and Rhinology, of the American Medical Association, at San Francisco, June, 1915 (Journal A. M. A., Aug. 7, 1915), Norval H. Pierce of Chicago cautions against too much enthusiasm and zeal for innovations, more especially in the specialties to which his section is devoted. Medical progress, he says, as regards medical discoveries, has its ebbs and flows, and for every new resource found there is a period of exaggerated hope often followed by another of neglect before a sane and sober estimation of its value is reached. He gives a number of instances in the history of medicine and notices some tendencies to arouse temporary enthusiasm for the older and more time- honored methods, etc. He holds, however, that the specialty of the ear, nose and throat has now been placed on a broad surgical basis, and in conclusion he cautions against too much faith in the use of serum and vaccine in treatment of nose, throat and ear affections. His personal experience with this has been most disappointing.

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Feeding on Bile.

J. C. A. Gerster, New York (Journal A. M. A., June 5, 1915), reports the case of a man who, after an operation for gallstones, suffered from a biliary fistula through which all the bile escaped, leav-

ing him in a pitiable condition. Tentative closure of the fistula caused cramps and failed to divert the flow of bile into the duodenum; evidently there was obstruction of the common duct. The patient's general condition forbade operation and, following the method described by Schmilinsky in a similar case, all the bile was collected through a catheter snugly fitting the fistula and passed into the stomach by the stomach tube twice a day (8 ounces each time), causing remarkable improvement. Fifteen days later a stone impacted in the papilla of vater was taken out under local anesthesia. After the second day convalescence was uneventful and the man was discharged cured three weeks later.

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Aluminum Vessels.

Prof. John Glaster, of the Glasgow University, by a series of experiments has determined that the only food substances that attack aluminum ware are oranges, lemons, Brussels sprouts and tomatoes. Even with these the quantity of aluminum dissolved is so small that it seems to be perfectly harmless to the human organism. Owing to the fact that aluminum is free from danger of poisoning, is easy to clean, heats quickly, is not blackened by sulfur as silver is, and is not affected by air at any temperature, aluminum seems to be an ideal metal for the manufacture of cooking vessels.---Practical Medicin.

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Ivy Poisoning.

A physician, writing to the Medical World, recommends the application of gasoline in treating ivy poisoning. Of course, the use of so inflammable a chemical as gasoline is attended with grave dangers and the person for whom it is prescribed should be properly cautioned.—Druggist Circular.

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Cinnamon Oil for Warts.

Oil of cinnamon, applied to the head of a wart as an escharotic, causes little heat, no burning, no scab, and no scar, according to Rosenberg, who states in Ellington's Therapeutist that he has obtained the best results from its use in this connection.

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Read the Want ads on "ad" Page XIV.

THERAPEUTIC NOTES

Sensitized Bacterial Vaccines.

Almost every practicing physician has had more or less personal experience with the use of bacterial vaccine in the treatment of infection. The practical value of this form of therapy—especially in acute conditions—is universally recognized. Although it cannot be said that vaccines are absolutely indispensable in the therapeusis of any form of infection, the results obtained at times as a direct result of the use of vaccines are so self-evident and so striking that their efficacy is not to be doubted. Not only in the cure, but in the prevention of disease as well, bacterial vaccines have assumed an importance that can hardly be exaggerated. The great European war now raging has served to emphasize more than any other event the real value of vaccines in the prophylaxis of those infectious diseases usually associated with camp life and the general unhygienic conditions of battle-scarred districts. The soldiers are immunized not only against these forms of infection, but by means of staphylococcus and streptococcus vaccine the attempt is also made to increase their immunity to infection that is apt to develop in a wound. In the practice of pediatrics attention has recently been called to the value of pertussis vaccine as a prophylactic of some value for whooping cough. It is quite probable that vaccine theapy will be developed to a greater extent than it is now. With the introduction of newer and better methods of preparing the material it is quite likely that vaccine therapy may again take its place as a most popular therapeutic aid, and that it may yield therapeutic results much more striking than those obtained at present.

Ordinary vaccine as generally used consists of dead organisms, the bacteria be-

ing killed by heat. Such a vaccine, when introduced into the body, produces a condition of immunity by stimulating the formation of protective substances known as antibodies, whose function it is to destroy the specific bacteria causing the infection. When ordinary vaccine is used, this protective reaction is not immediate; it takes several days before a sufficient number of antibodies are produced. If, however, the so-called sensitized vaccine is used the protective reaction occurs immediately.

Attention was first called to the use of sensitized vaccine by Besredka, in 1912. His method was to prepare the bacteria to be used as a vaccine by mixing them with the specific immune serum containing antibodies for the particular variety of bacteria to be used. The organisms attract the antibodies in the serum, and when injected into the body they are at once acted on by the complement. Bacteria—or any antigen—when properly joined to its specific antibody and to complement, lose their toxic properties entirely, or their virulence is so modified or attenuated that they may be administered without fear of dangerous sequelae.

A vaccine prepared in such a way, containing living sensitized bacteria, should certainly be superior for all purposes to one prepared in the ordinary way, containing dead bacteria. The superiority of sensitized vaccine appeals to anyone at all familiar with biologic products. The arguments in its favor advanced by those who have had experience with it may be summarized as follows.

The bacterlcidal power of the blood is increased at once. There is a rapid appearance of antibodies in the circulation, and these antibodies are present in much larger quantities than after the use of ordinary vaccine. Since the bacteria are greatly saturated with antibodies, they do not use up those which may have been formed in the body in response to the infecting germ, so that there does not result that reaction spoken of as "negative phase," during which the protective mechanism of the body is lowered for the time being. With sensitized vaccine there is produced little, if any, local or general reaction.—*Journal of the Indiana State Medical Association.*

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Read the Want ads on "ad" Page XIV.

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A Rational Treatment for Hay Fever.

Vasomotor rhinitis or hay fever is very generally recognized as a neurosis in which the morbid cycle is the irritation of a hyper-sensitive area in the nasal chamber by a foreign particle, the dilatation of the local capillaries, and turgescence of the turbinal tissues, accompanied by a catarrhal inflammation of the nasal mucous membrane. When the affection has declared itself and the patient is suffering more or less acutely from its ravages, manifestly there is need of prompt and effective treatment.

The suprarenal substance in the form of its isolated active principle, Adrenalin, is undoubtedly one of the very best of remedial agents at this critical juncture. While not a specific in the strict meaning of the word, it controls the symptoms effectually and secures for the patient a marked degree of comfort. Adrenalin Chloride Solution and Adrenalin Inhalant are the preparations most commonly used. The first mentioned should be diluted with four to five times its volume of physiologic salt solution, the latter with three to four times its volume of olive oil. The medicament is applied in spray form to the nares and pharynx. Any good atomizer adapted to the use of oily or aqueous substances is suitable employed.

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A Healthful, Convenient, Leavening Agent.

The doctor frequently has occasion to prescribe a diet for his patient and under such circumstances, is interested in the healthfulness and action of every ingredient of the food. Probably no ingredient is more influential in the production of appetizing and nutritious foods than is baking powder and at the same time there

is no ingredient over which there has waged such fierce trade controversies as to healthfulness and efficiency.

In view of these facts, the medical profession will welcome a concise treatment, setting forth in simple language, the facts in relation to the manufacture, chemistry and relative healthfulness of the different kinds of baking powder.

Thomas G. Atkinson, M. D., L. R. C. P. (London) in his new book of 58 pages entitled "Baking Powder—A Healthful, Convenient, Leavening Agent" gives us this concise, rational treatment in such simple terms that even the housewife who had not studied chemistry, would grasp the entire significance of every step in the presentation of the subject. This book should do much to do away with the misconceptions fostered by the false advertisements of trade interests and will ensure a wiser course in the selection of the type of baking powder to be used in the home or sanitarium, through its presentation of the work a baking powder is expected to do and what combination can be employed to effect this work most perfectly.

The comparison as to healthfulness is based directly on the chemical reactions that take place in the baking, by comparing the amounts of residue from different powders *of the same strength* in the light of their medicinal doses.

Every physician will be amply repaid for a study of this book. Price 50 cents.

Published by The Commonwealth Press, Chicago, Ill.

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New and Nonofficial Remedies.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies:"

Cephaeline.—An alkaloid obtained from ipecac. It is reiatively more emetic and less nauseant than ipecac and causes more renal irritation and less cardiac depression. It may be used as an emetic and expectorant. It is insoluble in water, but forms water soluble salts.

Syrup Cephaeline, Lilly.—A non-proprietary preparation containing cephaeline hydrochloride, equivalent to 2-5 grain cephaeline per fluid ounce. Eli Lilly and Co., Indianapolis, Ind. (Jour. A.M.A., June 19, 1915, p. 2067.)

Ouabain Ampules, (H. W. and Co.)—Each ampule contains 0.5 mg. crystallized ouabain. Hynson, Westcott and Co., Baltimore, Md. (Jour. A.M.A., June 19, 1915, p. 2067.)

Caustic Applicators, Special (Silver Nitrat, 50 per cent.) .—Wooden sticks 12 in. long, tipped with a mixture of silver nitrate 50 per cent, and potassium nitrate 50 per cent. Antiseptic Supply Co., New York. Jour. A.M.A., July 3, 1915, p. 29.)

Enzymol.—An extract of the fresh animal stomach containing the gastric enzyme in active standardized form and having an acidity due to combined hydrochloric acid. Enzymol is stated to be useful as an application to old sores, ulcers and slow healing wounds. It is said to correct offensive odors, to exert a solvent action on pus, sloughing and necrotic tissue and to impart a healing stimulus. For the solution of necrotic bone and in some abscesses hydrochloric acid is added to the diluted extract. (Jour. A.M.A., July 24, 1915, p. 333.)

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Properly proportioned (baking) powders, of the "phosphate-alum" type, are not only the best in keeping quality, but, when they contain sufficient phosphate, such as the Calumet Baking Powder, have also the best balanced speed of action, and insure the housewife against the dangers either of fallen biscuits on the one hand or of biscuits, which have crusted over too quickly to obtain the desired lightness, on the other hand.—Domestic Science Text Book.

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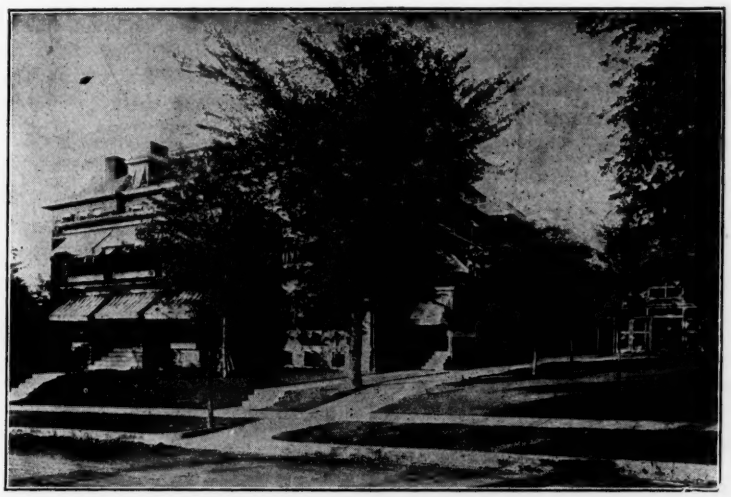
The Punton Sanitarium

KANSAS CITY, MO.



A Private Home Sanitarium

FOR NERVOUS AND

Mild Mental Diseases

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EDGAR F. DEVILBISS, M. D., Asst. Supt.
JAMES W. OUSLEY, M. D., Gastro-Enterologist.

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AUGUST and SEPTEMBER

are danger months for stomach and bowel irritations and infections — diarrhoeas, dysenteries and infectious fevers.

In these conditions, elimination and depletion of the vascular system through the alimentary tract is of the greatest importance. Use the same care and scientific judgment in the selection of an eliminant as in the choice and preparation of a suitable food.

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America's Natural Cathartic

because of its unusual content, and the fact that its salines are true and pure, is truly an ideal eliminant for this season of the year.

It washes out the stomach and bowel in a physiological way, and not by irritation. It is a natural hydragog and cholagog. It depletes and cleanses the mucosa, and it is, because of its very large per cent. of true sodium sulphate, pronouncedly antiseptic. None of the pathogenic germs multiply in a solution of ABILENA WATER.

Let us send you, complimentary, a sufficient quantity for home or clinical trial to prove our claims are true. If true, ABILENA WATER is the eliminant you are hoping to find.

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FOR SALE—A Betz 24 plate Static machine in first class condition. Will do such X-Ray work as any other Static machine will do. Have been using it myself for several years. Everything about it guaranteed. Will sell for $50.00. E. C. Duncan, M. D., Fredonia, Kansas.

FOR SALE—At a bargain. Nice property in thriving town central Kansas, equipped for doctor's office. Fine opportunity. Only one doctor in radius of from 9 to 20 miles. Terms on part. Address "C," Journal Kansas Medical Society, Topeka, Kan.

FOR SALE—Static X-Ray machine made by National X-Ray Co., Topeka, Kansas. This machine is new, never having been used. A bargain. Ed. C. Jerman, R. F. No. 1, Topeka, Kan.

FOR SALE—A Victor Finsen Light Apparatus. Will sell cheap. Address Journal Kansas Medical Society, Topeka, Kansas.

Treatment of Painful Frostbite.

W. C. Davis states (British Med. Jour.) that the problem of how best to treat painful frost-bitten feet is one which doubtless has caused those in charge of military wards some anxiety. The best remedy the author has found to be cocain, 8 grains; olive oil, 4 drams; and lime water, 4 drams. A small quantity is rubbed into the feet twice daily, special attention being given to the toes; the feet are massaged with it for a few minutes, and afterward wrapped up in cotton wool. It is an improvement to add 1 ounce of liquid paraffin to 4 ounces of above preparation, as by this addition it is prevented from oxidizing so quickly, and also from drying up so rapidly, and makes it less liable to rancidity. When the oil dries on the feet, the following dusted on is an excellent powder: Camphor, 35 grains, and zinc oxide and powdered starch of each 1-2 ounce.—Medical Record, New York.

Serous Colitis.

Rolfe Floyd, New York, (Journal A. M. A., June 5, 1915,) subdivides the so-called catarrhal colitis into three types: 1. That of children, which may be fatal, and regularly shows a swelling and sometimes a rupture of the solitary lymph follicles. 2. Catarrhal colitis in adults, with mucus the chief inflammatory product, of which he gives a case as an example. 3. Catarrhal colitis in adults, with serous fluid the chief inflammatory product, which differs from the previous type. "The passages are copious, from one-fourth to one pint, at first soft fecal, then simply gushes of watery fluid, either green or brown, often preceded by colic, but unassociated with tenesmus. Blood does not occur, and mucus is absent or nearly so. The patients are prostrated and may even faint after a large passage. There is little or no fever. The condition lasts longer than the mucoid form, and if untreated, may run for weeks." A case illustrating the condition is reported. The patient died of lobar pneumonia, and the necropsy findings are given. The small intestine contained a small amount of viscid yellow chyle. The jejunum was moderately distended with gas; the colon was apparently not as large as usual and was empty, the mucosa strikingly clean and edematous; there were no congestion, ulcers, or hypertrophied lymph follicles. Under the microscope the mucosa and muscle coat were normal, but the submucosa was markedly thickened by edema and the lymph spaces enormous. There were no congestion or diapedesis of red or white cells, and no follicular hypertrophy. The large vessels had thickened walls, due to homogeneous swelling of their elements. With the complication of pneumonia in this case, and the trouble commencing with a saline dose, it is difficult to say that the lesions are characteristic of serous colitis, but necropsies on these patients are so rare that Floyd thinks it proper to put the case on record as possibly showing the lesions of the disease.

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3. Or that of any other person (not necessarily an assistant or agent).
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How Is Measles Transmitted?

It has long been the professional as well as the popular opinion that measles is transmitted by the scales from the desquamating epithelium, and the patient has consequently been quarantined till the scaling process has entirely ceased. This viewpoint has been disturbed by investigations recently made by Anderson and Goldberger, of the United States Hygienic Laboratory, who have reached the conclusion that the real source of infection is the secretion from the nose and mouth. The disease is most contagious, therefore, during the pre-eruptive stage, when the catarrhal symptoms are most in evidence. In the absence of catarrhal symptoms the disease ceases to be contagious. Anything which may be soiled with the buccal and nasal secretions during the active stage of the inflammatory symptoms at this site may serve as a carrier, for instance, handkerchiefs, bed clothing, wearing apparel, and the like. If these investigations are substantiated by the experience of others the problem of prophylaxis, as well as the dfficulties of quarantine, will be easier to solve.—Medical Standard, Chicago.

℞

An Antiseptic Iodine Solution.

Dr. H. W. Yemans, first lieutenant, Medical Reserve Corps, U. S. A., in the Military Surgeon for June, 1915, states that he has used the following formula to the exclusion of all others during the past eight years, with better results and greater satisfaction than any other disinfectant has ever given him: Iodine, 1 gram; potassium iodide, 2 grams; salicylic acid, 5 grams; alcohol (70 per cent), enough to make 100 grams.

Undiluted, this solution may be made use of for sterilizing the hands and sites of operation, for disinfecting wounds, and for such other purposes as will readily suggest themselves. For wet dressings and for irrigations it should be diluted with water so as to represent an iodine content of from 1 in 1,000 to 1 in 5,000; diluted to 1 in 25,000, it is used for gonorrheal ophthalmia and urethral irrigations with excellent results, though it is advisable to cocainize the eye previously.

The solution is not deleterious to instruments; in fact, it may be used for sterilizing them, other means failing. The discoloration which it causes soon disappears, and it is not too irritating when used full strength for sterilizing the hands, provided that they are not previously subjected to what Dr. Yemans calls "that senseless procedure," violent scrubbing. When the solution is used in full strength, the hands should be well dried.—New York Medical Journal.

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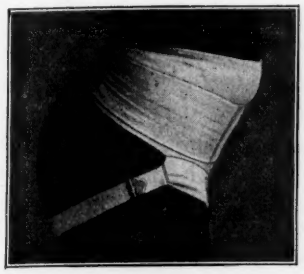

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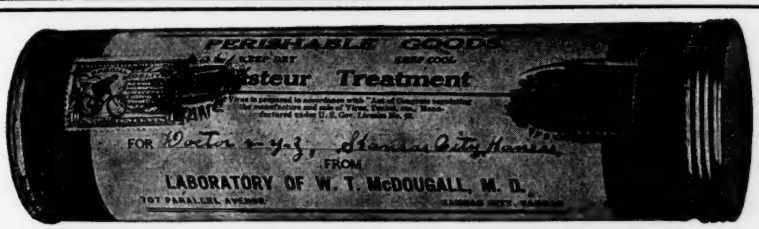

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KANSAS MEDICAL SOCIETY

Chartered by the Territorial Legislature of Kansas Feb. 19. 1859

President, - - - O. D. WALKER, M. D., - - - - - Salina.
Secretary, - - - CHAS. S. HUFFMAN, M. D., - - Columbus.
Treasurer, - - - L. H. MUNN, M. D. - - - - - - Topeka.

Members of Component County Societies are members of the Kansas Medical Society. Physicians residing in counties where no County Society exists may join the society of an adjoining county. Physicians residing in counties where no county society exists, who are members of a district or other independent society approved by the Council, may be admitted to membership.

ANNUAL DUES $3.00, due on or before April 1st of each year.

Dues should be paid to the Secretary of the Component County Society or, if not a member of a County Society, to the Secretary of the Kansas Medical Society.

SOCIETY CALENDAR

SOCIETY	PRESIDENT	SECRETARY	MEETINGS
Atchison	M T Dingess, Atchison	E T Shelley, Atchison	1st Wed. ex. July. Aug
Allen	J G. Wal ker, Iola	F L B Leavell, Iola	2nd Weenesday
Anderson	J. R. Smitheisler, Westpahlia	T A Hood, Garnett	
Brown	W E Palmer, Hiawatha	H J Harker, Horton	1st Tues. Jan. Apr. June, Oct
Barton	A H Connett, Great Bend	M F Russell, Great Bend	3rd Friday
Butler	F A Garvin, Augusta	J R McCluggage, Augusta	3rd Thur. Feb. & ea. alt. mo.
Bourbon	L W Griffin, Ft. Scott	J J Cavanaugh, Ft Scott	3rd Monday
Crawford	H H Bogle, Pittsburg	C Mart Montee, Pittsburg	1st Tues. ex. July, Aug. Sept,
Central Kansas	E A Bowles, Ellsworth	B H Mayer, Ellsworth	2d Wed. June,Sept. Dec. Mch.
Cloud	Chas Stein, Glasco	E N Robertson, Concordia	Last Thursday
Cowley	S J Guy, Winfield	B C Geeslin, Arkansas City	3d Thursday
Chautauqua	J C Kirbey, Cedar Vale	L D Tout, Cedar Vale	
Clay	D P Cook, Clay Center	G W Bale, Clay Center	2d Wednesday
Cherokee	R E Markham, Scammon	E L Parmeter, Mineral	
Doniphan	W B Campbell, Troy	W M Boone, Highland	1st Tue. Jan. Apr. July, Oct.
Decat'r-Nort'n	H O Hardesty, Jennings	C S Kenney, Norton	Called
Douglas	G A Hammer, Lawrence	F J Blair, Lawrence	2d Tuesday
Elk	J F Costello, Howard	F L Depew, Howard	Called
Franklin	A Haggard, Ottawa	C E Buckley, Ottawa	Last Wednesday
Geary	W A Carr, Junction City	W A Smiley, Junction City	
Harvey	Sophia Lee Cochran, Newton.	Ida M Scott, Newton	First Monday
Harper	G S Wilcox, Freeport	H L Galloway, Anthony	
Jackson	V V Adamson, Holton	Chas M Siever, Holton	1st Wed. Jan. Apr. July, Oct.
Jefferson	A D Lowry, Valley Falls	F P Mann, Valley Falls	
Johnson	Thos Greer, Edgerton	F F Greene, Olathe	
Jewell		D D Allen, Mankato	
Kingman	J. W. Light. Kingman	J M McKamey, Kingman	2d Thur. ex. Summer mos.
Leavenworth	J L Fryer, Leavenworth	J L Everhardy, Leavenworth	2d and 4th Mondays
Lincoln	O F Dierker, Sylvan Grove	G M Anderson, Lincoln	1st Thursday
Labette	M L Perry, Parsons	O S Hubbard, Parsons	4th Wednesday
Lyon	B E Garrison, Emporia	A W Corbet, Emporia	1st Tuesday
Linn	F A Mills, Mound City	H L Clark, LaCygne	2d and 4th Fridays
Marshall	W E Ham, Beattie	Eddington Eddy, Marysville	Lst. Thurs. Jul.Oct.Jan. Apr.
McPherson		Oscar W. Sprouse, Inman	
Miami	J D Walthall, Paola	Clifford Van Pelt, Paola	Last Fridays
Marion	Henry Brunig, Hillsboro	C L Appleby, Peabody	2d Wednesday
Mitchell	Dr Postlewaite, Glen Elder	W H Gook, Beloit	3d Thur. Mch. June, Sep. Oct.
Montgomery	F B Taggart, Independence	J A Pinkston, Independence	3d Friday
Nemaha	C R Townsend, Centralia	J R Mathews, Sabetha	Last Thur. every other month
Neosho	W E Barker, Chanute	A M Garton, Chanute	1st and 3d Wednesdays
Osborne	J W Lindley, Natoma	W W Miller, Osborne	
Pawnee		A E Reed, Larned	
Pratt		R E Podfield, Coats	
Republic	William Kamp. Belleville	H D Thomas, Belleville	2d Thursday in November
Rice	J H Skaats, Bushton	J M Little, Sterling	Last Thursday
Reno	Fred A Forney, Hutchinson	W F Schoor, Hutchingon	4th Friday
Riley	J C Wilhoit, Manhattan	W H Clarkson, Manhattan	
Stafford	C S Adams, St John	Cyrus, Wesley, Stafford	2d Wednesday
Sedgwick	J C Brown, Wichita	E D Kilbourn, Wichita	1st and 3d Tuesdays
Sumner	T J Hollingsworth, South Haven	H F Hyndman, Wellington	Last Thursday every quarter
Smith	W H Pearson, Kensington	C C Funk, Smith Center	Called
Saline	L O Nordstrom, Salina	H N Moses, Salina	2d Thursday
Southwest	W F Fee. Meade	Thos L Higginbothan	Quarterly
Shawnee	L V Sams, Topeka	A K Owen, Topeka	1st Monday
Tri-County	J H McNaughton, Gove	D R Stoner, Quinter	Jan. April, July, Aug. Oct.
Washington	M H Horn, Morrowville	W M Earnest, Washington	
Wilson	F T Allen, Neodesha	E C Duntan, Fredonia	2d Tues. Dec.Mch.June, Sept.
Woodson	E K Killenburger, Yates Center	H W West. Yates Center	Tues. before 1st Wed. ea. mo.
Wyandotte	Leslie Leverich, Kansas City	C J Lidikay, Kansas City	Ev. 2d Tues. ex. Summer mos.

Adrenalin in Hay Fever.

The suprarenal substance in the form of its isolated active principle, Adrenalin, has abundantly demonstrated its serviceability in the treatment of vasomotor rhinitis or hay fever.

Topically applied, it allays the congestion of the mucous membrane, reduces the swelling of the turbinal tissue, controls the nasal discharge, cuts short the violent paroxysms of sneezing and the profuse lacrimation, and prevents depression by stimulating the heart.

These preparations are especially commended:

Adrenalin Chloride Solution

Each fluidounce contains: Adrenalin Chloride, 2/5 grain; Chloretone, 2¼ grains; physiologic salt solution, q. s.

The Solution is best sprayed into the nasal chambers and pharynx by means of a hand atomizer adapted for aqueous liquids, or it may be applied on a pledget of cotton. For the former use it is advisable to dilute the product as marketed (1:1000) by the addition of four to five times its volume of physiologic salt solution.

Supplied in ounce glass-stoppered bottles.

Adrenalin Inhalant

Contains one part of Adrenalin Chloride in 1000 parts of an aromatized bland oil base, with 3 per cent. Chloretone as a preservative.

This medicament is adapted for vaporization and inhalation from an oil atomizer or nebulizer, and parts not accessible to other medication are readily reached by the medicated vapor. The Inhalant may advantageously be diluted by the addition of three to four times its volume of olive oil.

Supplied in ounce glass-stoppered bottles.

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This is an admirable instrument for spraying the Adrenalin solutions. It combines asepsis, convenience, efficiency and simplicity. It is readily sterilized, the working parts being *one piece of glass.* It produces a fine spray and is suited to oils of all densities, as well as aqueous, spirituous and ethereal liquids. Price, complete (with throat-piece), $1.25.

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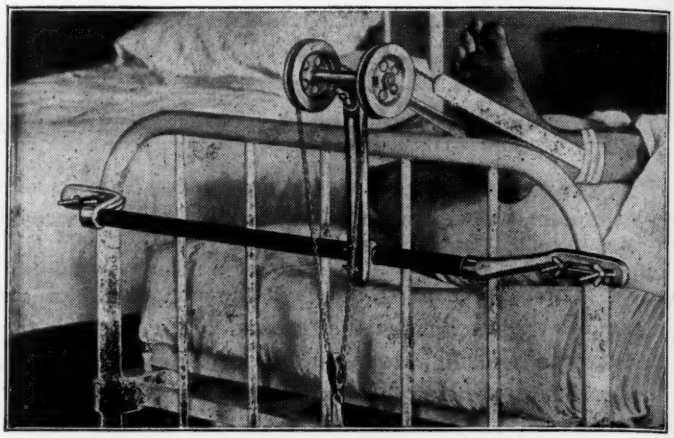

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Antityphoid Immunization is Harmless.—During the past four years over 200,000 persons, mostly in the military and naval service, have been immunized without any fatalities or untoward results.*

Typho-Bacterin is composed of killed typhoid bacilli suspended in physiologic saline solution, and the number of bacteria standardized per c.c.

In preparing Typho-Serobacterin the preliminary process of immunization is carried out by combining the killed typhoid bacilli with the amboceptors, agglutinins, etc., secured from the blood serum of sheep immunized against the typhoid bacillus. The bacteria and the antibodies in the serum combine permanently.

Serobacterins, being saturated with specific antibodies, are attacked by the complement of the blood and taken up by the phagocytes much more rapidly than unsensitized bacteria. Serobacterins are characterized by rapidity of action, freedom from toxicity, and the production of efficient and durable immunity.

Typho-Serobacterin Immunizing Mulford is furnished in packages of **three** aseptic glass syringes, graduated to contain: **First Dose,** 1000 million; **Second Dose,** 2000 million; **Third Dose,** 2000 million sensitized typhoid bacilli.

The usual dose for immunizing is 1000 million killed **sensitized** typhoid bacilli for the first dose, followed by a second and third dose of 2000 million after 2 to 5 day intervals.

Typho-Serobacterin Therapeutic Mulford is supplied in packages of **four** aseptic glass syringes, graduated to contain: **Syringe A,** 250 million; **Syringe B,** 500 million; **Syringe C,** 1000 million; **Syringe D,** 2000 million sensitized typhoid bacilli.

Typho-Serobacterin Mixed Mulford is used for the prophylaxis and treatment of paratyphoid and mixed infection. It is supplied in packages of **three** aseptic glass syringes, graduated as follows:

	First Dose	Second Dose	Third Dose
Bacillus typhosus	1000	2000	2000 million
B. paratyphosus "A"	500	1000	1000 million
B. paratyphosus "B"	500	1000	1000 million

Typho-Serobacterin Mixed is coming into general favor for preventive immunization, as its use affords immunity against the typhoid bacilli and the paratyphoid bacilli, present in about 10 per cent of typhoid cases.

Full literature mailed upon request.

* Major Russell, Journal American Medical Association, August 30, 1913.

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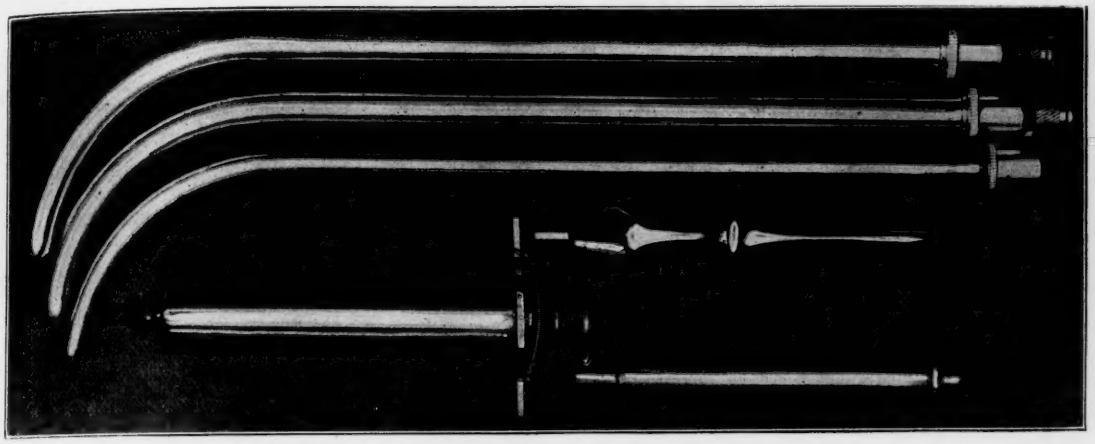

The virtues of these various size tubes, for applying medications as well as for dilating in the Posterior and Anterior male Urethra, were explained in the late issue of the American Medical Association Journal, under date of May 22, Vol. LXIV, page 1754. The set contains three sterling silver hollow tubes ranging in size from 14 to 24 French, which can easily be attached to all glass or glass barrel syringes for introducing solutions, medicinal agents, etc. These tubes or dilators can also be used as regular Van Buren sounds by means of sound handle.

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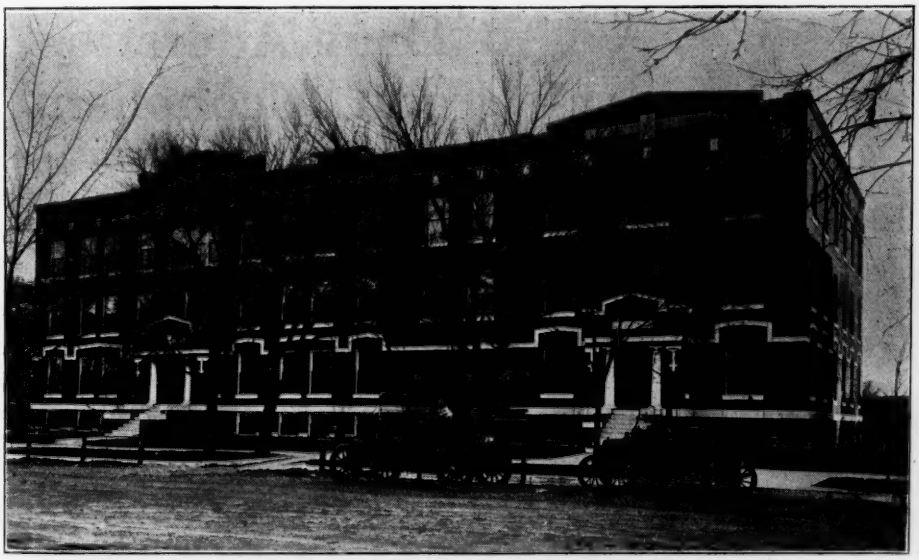

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DR. W. E. CURRIE, Sterling, Kan.
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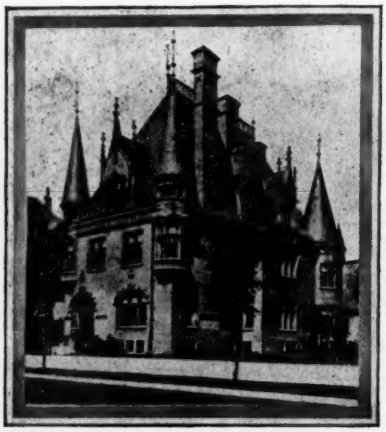

The HYGEIA SANITARIUM

Exclusively for the Treatment of Drug Addiction and Alcoholism

Dr. Wm. K. McLAUGHLIN, Medical Supt

2715 Michigan Avenue
CHICAGO, ILL.

Drug Addiction and Alcoholism

THE HYGEIA SANITARIUM

is maintained exclusively for the treatment of those who have become addicted to the use of drugs, and wish, without suffering or publicity, to be freed from the habit and its craving. The method employed is that described by Dr. Alexander Lambert in the Journal of the A. M. A. under date of June 21, 1913. Each patient is given a thorough examination, clinical and laboratory, and treatment modified in accordance with the findings.

A Fixed Charge is made on entrance which covers private room, meals served therein, and all necessary expenses.

Resident Physicians—Trained Nurses.

A full account of the Hygeia Sanitarium method will be sent on receipt of the attached coupon.

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